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

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
# Table of Contents

**Academic Calendar** ........................................ iv  
**Chapter 1: About UCLA** ........................................ 1  
Introducing UCLA ............................................ 2  
Academic Resources and Programs ......................... 6  
Student Life .................................................. 11  
Student Services .............................................. 16  
**Chapter 2: Undergraduate Study** 19  
Undergraduate Admission ..................................... 20  
Registration and Enrollment .................................. 24  
Undergraduate Fees and Financial Support ............... 26  
Undergraduate Majors and Degrees ......................... 30  
Getting Your Bachelor's Degree ......................... 32  
Academic Resources and Assistance ...................... 35  
Academic Excellence ........................................... 38  
**Chapter 3: Graduate Study** 39  
Graduate Admission ........................................... 41  
Graduate Majors and Degrees ................................ 42  
Registration and Enrollment .................................. 45  
Graduate Fees and Financial Support ...................... 47  
Requirements for Graduate Degrees .................... 49  
Special Programs and Training ............................ 55  
General Policies and Regulations ......................... 56  
**Chapter 4: Academics** 57  
Units and Grading Policy ..................................... 58  
Leaving UCLA ................................................ 62  
Organization: Colleges, Schools, Courses ............. 65  
**Chapter 5: College of Letters and Science** 67  
Letters and Science Majors ................................ 68  
The Study List ............................................... 70  
Requirements for the Bachelor's Degree ............... 70  
Honors ........................................................ 75  
Preparing for a Professional School ..................... 76  
Departments:  
African Area Studies ......................................... 78  
African Studies ............................................. 80  
Afro-American Studies ........................................ 81  
American Indian Studies ..................................... 83  
Anthropology ................................................ 84  
Applied Linguistics ......................................... 93  
Archeology .................................................. 95  
Asian American Studies ..................................... 98  
Astronomy .................................................... 99  
Atmospheric Sciences ........................................ 101  
Biology ..................................................... 105  
Business and Administration ................................ 112  
Chemistry and Biochemistry ................................ 113  
Chemistry/Materials Science ................................ 119  
Chicano Studies ............................................. 120  
Classics ..................................................... 121  
Communication Studies ...................................... 126  
Comparative Literature ...................................... 127  
Cybernetics ................................................ 130  
Diversified Liberal Arts ..................................... 130  
Earth and Space Sciences ................................... 131  
East Asian Studies ........................................... 138  
Economics ................................................. 138  
Economics/Business .......................................... 143  
Economics/International Area Studies .................. 144  
Economics/System Science .................................. 144  
English ..................................................... 145  
Folklore and Mythology ..................................... 155  
Foreign Literature in Translation ......................... 159  
French ..................................................... 159  
Geography .................................................. 163  
Germanic Languages ......................................... 170  
History ..................................................... 177  
Humanities ................................................ 186  
Indo-European Studies ....................................... 187  
International Relations ..................................... 189  
Islamic Studies .............................................. 189  
Italian ...................................................... 191  
Journalism ................................................ 195  
Kinesiology ................................................ 195  
Latin American Studies ..................................... 199  
Linguistics .................................................. 204  
Mathematics .................................................. 211  
Mathematics/Computer Science ......................... 219  
Microbiology ................................................ 220  
Molecular Biology ........................................... 224  
Near Eastern Languages and Cultures ................. 224  
Near Eastern Studies ......................................... 231  
Oriental Languages .......................................... 231  
Philosophy .................................................. 235  
Physics ..................................................... 240  
Political Science ............................................ 245  
Psychology .................................................. 252  
Romance Linguistics and Literature ................. 260  
ROTC ...................................................... 263  
Aerospace Studies ........................................... 263  
Military Science ............................................ 263  
Naval Science ............................................... 265  
Slavic Languages and Literatures ....................... 265  
Sociology ................................................... 270  
Spanish and Portuguese ..................................... 275  
Speech ...................................................... 281  
Study of Religion ............................................ 281  
Urban Studies/Organizational Studies ............... 282  
Women's Studies ............................................ 283  
**Chapter 6: College of Fine Arts** 285  
Bachelor of Arts Degree .................................... 286  
Graduate Study ............................................... 288
## Calendar, 1983-1984

<table>
<thead>
<tr>
<th>Event</th>
<th>Fall 1983</th>
<th>Winter 1984</th>
<th>Spring 1984</th>
</tr>
</thead>
<tbody>
<tr>
<td>First day to file undergraduate application with admissions officer,</td>
<td>November 1,</td>
<td>July 1, 1983</td>
<td>October 1, 1983</td>
</tr>
<tr>
<td>1147 Murphy Hall (Last day will depend on number of applications received)</td>
<td>December 30, 1982</td>
<td>October 1, 1983</td>
<td>December 30, 1983</td>
</tr>
<tr>
<td>Last day to file application for graduate admission, readmission, or renewal of application with complete credentials and application fee, with Graduate Admissions, 1247 Murphy Hall</td>
<td>December 30, 1982</td>
<td>October 1, 1983</td>
<td>December 30, 1983</td>
</tr>
<tr>
<td>Last day to file graduate petitions for change of major with Graduate Division, 1225 Murphy Hall</td>
<td>December 30, 1982</td>
<td>October 1, 1983</td>
<td>December 30, 1983</td>
</tr>
<tr>
<td>First day to obtain Student Parking Request forms at Campus Parking Service</td>
<td>May 2, 1983</td>
<td>October 10, 1983</td>
<td>January 16, 1984</td>
</tr>
<tr>
<td>Schedule of Classes goes on sale at Students' Store, Ackerman Union, and North Campus facilities</td>
<td>June 6</td>
<td>November 10</td>
<td>February 17</td>
</tr>
<tr>
<td>Distribution of registration materials by letter groups for continuing students</td>
<td>June 6</td>
<td>November 10</td>
<td>February 17</td>
</tr>
<tr>
<td>Enrollment for student health insurance at A2-143 Center for Health Sciences</td>
<td>July 1-10</td>
<td>December 1-10</td>
<td>March 21-31</td>
</tr>
<tr>
<td>Academic counseling for new students is available by appointment in college and school offices</td>
<td>July 1</td>
<td>November 1</td>
<td>January 23</td>
</tr>
<tr>
<td>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)</td>
<td>July 15</td>
<td>November 1</td>
<td>January 20</td>
</tr>
<tr>
<td>First mailing date for continuing student registration (fee payment) and enrollment in classes</td>
<td>July 15</td>
<td>November 18</td>
<td>February 17</td>
</tr>
<tr>
<td>Last day to submit Student Parking Request for campus parking permit</td>
<td>July 13 (1st run)</td>
<td>November 15</td>
<td>February 20</td>
</tr>
<tr>
<td>Last day to file undergraduate application for readmission with Registrar, 1134 Murphy Hall</td>
<td>August 17 (2nd run)</td>
<td>November 15</td>
<td>February 15</td>
</tr>
<tr>
<td>New and re-entrant students eligible to register by mail should receive registration materials at permanent address</td>
<td>August 5</td>
<td>November 30</td>
<td>February 24</td>
</tr>
<tr>
<td>First mailing date for new and re-entrant student registration (fee payment) and enrollment in classes</td>
<td>August 10</td>
<td>December 2</td>
<td>February 29</td>
</tr>
<tr>
<td>Last mailing date for all students to register (pay fees) and/or enroll by mail</td>
<td>September 2</td>
<td>December 9</td>
<td>March 7</td>
</tr>
<tr>
<td>Registrar mails: (1) Validated Reg Cards for students who paid fees by mail</td>
<td>September 13</td>
<td>December 20</td>
<td>March 15</td>
</tr>
<tr>
<td>(2) Tentative Study List datamailer with results of enrollment processed by mail, and appointment for undergraduate enrollment in person</td>
<td>September 20</td>
<td>January 3, 1984</td>
<td>March 27</td>
</tr>
<tr>
<td>English as a Second Language Placement Examination (ESLPE)</td>
<td>September 27</td>
<td>January 4</td>
<td>March 28</td>
</tr>
<tr>
<td>QUARTER BEGINS</td>
<td>September 27</td>
<td>January 4</td>
<td>March 28</td>
</tr>
<tr>
<td>Subject A Placement Examination and Proficiency Examinations for English 3</td>
<td>September 27</td>
<td>January 4</td>
<td>March 28</td>
</tr>
<tr>
<td>Chemistry/Mathematics Preliminary Examination</td>
<td>September 27</td>
<td>January 4</td>
<td>March 28</td>
</tr>
<tr>
<td>Financial Aid check distribution to registered students begins</td>
<td>September 27</td>
<td>January 4</td>
<td>March 28</td>
</tr>
<tr>
<td>Issuing of UCLA Student I.D. Cards to new and re-entering students begins</td>
<td>September 27</td>
<td>January 4</td>
<td>March 28</td>
</tr>
<tr>
<td>Registration In person, 8:30 a.m. to 5:00 p.m. (Allow 30 minutes to complete fee payment process)</td>
<td>September 27-30</td>
<td>January 4-6</td>
<td>March 28-30</td>
</tr>
<tr>
<td>Undergraduate enrollment in person by appointment</td>
<td>September 27-30</td>
<td>January 4-6</td>
<td>March 28-30</td>
</tr>
<tr>
<td>French Placement Examination</td>
<td>September 28</td>
<td>January 6</td>
<td>March 30</td>
</tr>
<tr>
<td>Music Placement Examination</td>
<td>September 29</td>
<td>January 5</td>
<td>March 29</td>
</tr>
<tr>
<td>Spanish and Portuguese Placement Examination</td>
<td>September 29</td>
<td>January 5</td>
<td>March 29</td>
</tr>
<tr>
<td>INSTRUCTION BEGINS</td>
<td>October 3</td>
<td>January 9</td>
<td>April 2</td>
</tr>
<tr>
<td>*LATE registration in person with $50 fee, 8:30 a.m. to 5:00 p.m.</td>
<td>October 3-14</td>
<td>January 9-20</td>
<td>April 2-13</td>
</tr>
<tr>
<td>Changes in Study List without fee, 8:30 a.m. to 5:00 p.m.</td>
<td>October 3-14</td>
<td>January 9-20</td>
<td>April 2-13</td>
</tr>
</tbody>
</table>

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

**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.**

V
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
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, 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.

**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 66 different disciplines; graduate students may earn one of 66 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 administrative 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 furtheres 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 Americans, and the general public.

The Gustave E. von Grunebaum Center for Near Eastern Studies (10285 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, Ernst 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, telemill, 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 Northen, 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...
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 2221 B Bunche Hall (825-4889, 825-4995).
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...
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).

**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, Wilshire, 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 is open weekdays 10:30 a.m. to 10 p.m. (7 p.m. Friday), Saturday 11 a.m. to 6 p.m., Sunday 11 a.m. to 9 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 (Beanwear), 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, 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 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 Miterrand 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 (930 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 student involvement and personal growth.
The Music Department offers more than 20 performance organizations. Instrumentalists are invited to play with one of seven different bands and orchestras. An extensive ethnomusicology program allows you to perform with various non-Western 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’Brian, 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 206-6760.

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 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 hygiene 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.

**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 UCL A 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

<table>
<thead>
<tr>
<th>Service</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCLA Police Department (24 hours)</td>
<td>825-1491</td>
</tr>
<tr>
<td>Police Emergency (from campus phones)</td>
<td>dial 35</td>
</tr>
<tr>
<td>UCLA Emergency Medical Center (24 hours)</td>
<td>825-2111</td>
</tr>
<tr>
<td>UCLA Escort Service (dusk to 1 a.m.)</td>
<td>825-1493</td>
</tr>
<tr>
<td>Helpline (8 p.m. to midnight)</td>
<td>825-HELP</td>
</tr>
<tr>
<td>Crime Information (6 p.m. to 6 a.m.)</td>
<td>825-7661</td>
</tr>
</tbody>
</table>

---

**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).
Undergraduate Study
Undergraduate Admission

Information:
Undergraduate Admissions and Relations with Schools
1147 Murphy Hall
825-3101
825-8764 for tour information; 825-3101 for general admission information.

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. 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 chances 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.

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 (2.5 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 transferable courses. 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 (60 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 (OARS).

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 OARS 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:

<table>
<thead>
<tr>
<th>Filing Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 1 for Fall Quarter 1983</td>
</tr>
<tr>
<td>November 15 for Winter Quarter 1984</td>
</tr>
<tr>
<td>February 15 for Spring Quarter 1984</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Quarterly Expenses, Fall 1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>University registration fee</td>
</tr>
<tr>
<td>Education fee</td>
</tr>
<tr>
<td>Ackerman Student Union fee</td>
</tr>
<tr>
<td>Associated Students (ASUCLA) fee</td>
</tr>
<tr>
<td>Wooden Recreation Center fee</td>
</tr>
<tr>
<td><strong>Total for California residents</strong></td>
</tr>
<tr>
<td>Nonresident tuition fee</td>
</tr>
<tr>
<td><strong>Total for nonresidents</strong></td>
</tr>
</tbody>
</table>

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

Other Fees

Miscellaneous fees charged to 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

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

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

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

Information:
Financial Aid Office
A107 Murphy Hall
925-4531

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 refinanced 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

<table>
<thead>
<tr>
<th>MAJORS</th>
<th>DEGREES</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>College of Letters and Science</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African Studies</td>
<td></td>
<td>Special Program (taken jointly with an organized major)</td>
</tr>
<tr>
<td>Afro-American Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Asian American Studies</td>
<td></td>
<td>Special Program (taken jointly with an organized major)</td>
</tr>
<tr>
<td>Astronomy</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Atmospheric Sciences</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Business and Administration</td>
<td></td>
<td>Program (taken jointly with an organized major)</td>
</tr>
<tr>
<td>Chemistry and Biochemistry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biochemistry</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>General Chemistry</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Chemistry/Materials Science</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Chicano Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Classics</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Classical Civilization</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Greek</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Latin</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>English/Greek</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>English/Latin</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Communication Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Cybernetics</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Diversified Liberal Arts</td>
<td></td>
<td>Certificate Program (taken jointly with an organized major)</td>
</tr>
<tr>
<td><strong>Earth and Space Sciences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geology</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geology (Engineering Geology)</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geology (Geochemistry)</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geology (Nonrenewable Natural Resources)</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geology (Paleobiology)</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geophysics (Applied Geophysics)</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Geophysics (Geophysics and Space Physics)</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>East Asian Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Economics/Business</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Economics/International Area Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Economics/System Science</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>French</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>French and Linguistics</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Geography/Ecosystems</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td><strong>Germanic Languages</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>German</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Scandinavian Languages</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>International Relations</td>
<td></td>
<td>Special Program (taken jointly with the Political Science major)</td>
</tr>
<tr>
<td>Italian</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Italian and Special Fields</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Kinesiology</td>
<td>B.S.</td>
<td></td>
</tr>
<tr>
<td>Latin American Studies</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Linguistics</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>African Languages</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Linguistics and Computer Science</td>
<td>B.A.</td>
<td></td>
</tr>
<tr>
<td>Linguistics and English</td>
<td>B.A.</td>
<td></td>
</tr>
</tbody>
</table>
### MAJORS

<table>
<thead>
<tr>
<th>DEGREES</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Linguistics and French</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Linguistics and Italian</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Linguistics and Oriental Languages</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Linguistics and Philosophy</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Linguistics and Scandinavian Languages</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Linguistics and Spanish</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Applied Mathematics</strong></td>
<td>B.S.</td>
</tr>
<tr>
<td><strong>Mathematics/Applied Science</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Mathematics/Computer Science</strong></td>
<td>B.S.</td>
</tr>
<tr>
<td><strong>Mathematics/System Science</strong></td>
<td>B.S.</td>
</tr>
<tr>
<td><strong>Microbiology</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Near Eastern Languages and Cultures</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Ancient Near Eastern Civilizations</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Arabic</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Hebrew</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Jewish Studies</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Near Eastern Studies</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Oriental Languages</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Chinese</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Japanese</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Philosophy</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Physics</strong></td>
<td>B.S.</td>
</tr>
<tr>
<td><strong>General Physics</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Political Science</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Psychology</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Psychobiology</strong></td>
<td>B.S.</td>
</tr>
<tr>
<td><strong>Quantitative Psychology</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Slavic Languages and Literatures</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Russian Civilization</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Russian Linguistics</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Sociology</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Spanish and Portuguese</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Portuguese</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Spanish</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Spanish and Linguistics</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Study of Religion</strong></td>
<td>B.A.</td>
</tr>
<tr>
<td><strong>Urban Studies or Organizational Studies</strong></td>
<td>—</td>
</tr>
<tr>
<td><strong>Women's Studies</strong></td>
<td>—</td>
</tr>
</tbody>
</table>

### College of Fine Arts

<table>
<thead>
<tr>
<th>Art, Design, and Art History</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Art</strong></td>
</tr>
<tr>
<td><strong>Art History</strong></td>
</tr>
<tr>
<td><strong>Design</strong></td>
</tr>
<tr>
<td><strong>Dance</strong></td>
</tr>
<tr>
<td><strong>Ethnic Arts</strong></td>
</tr>
<tr>
<td><strong>Music</strong></td>
</tr>
<tr>
<td><strong>Theater Arts</strong></td>
</tr>
<tr>
<td><strong>Motion Picture/Television</strong></td>
</tr>
<tr>
<td><strong>Theater</strong></td>
</tr>
</tbody>
</table>

### School of Engineering and Applied Science

<table>
<thead>
<tr>
<th>Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.S.</td>
</tr>
</tbody>
</table>

### School of Nursing

<table>
<thead>
<tr>
<th>Nursing</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.S.</td>
</tr>
</tbody>
</table>
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);
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,

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 nongraduated 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 (825-0931).

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 pro-

gram 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) — Coponsored 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
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 Academic 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).
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

<table>
<thead>
<tr>
<th>Date</th>
<th>Test Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 15, 1983</td>
<td>February 4, 1984</td>
</tr>
<tr>
<td>December 10, 1983</td>
<td>April 28, 1984</td>
</tr>
<tr>
<td>June 9, 1984 (aptitude only)</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>MAJORS</th>
<th>DEGREES</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Area Studies</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Afro-American Studies</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>American Indian Studies</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Anatomy</td>
<td>M.S., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Anesthesiology</td>
<td>M.S.</td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>M.A., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Applied Linguistics</td>
<td>C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Archaeology</td>
<td>M.A., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Architecture and Urban Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art, Design, and Art History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art (Art, Design)</td>
<td>M.A., M.F.A.</td>
<td></td>
</tr>
<tr>
<td>Art History</td>
<td>M.A., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Asian American Studies</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Astronomy</td>
<td>M.S., M.A.T., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Atmospheric Sciences</td>
<td>M.S., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Biological Chemistry</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Biomathematics</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Chemistry and Biochemistry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biochemistry</td>
<td>M.S., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>M.S., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Classics</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Greek</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Latin</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Comparative Literature</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Dance</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Dentistry</td>
<td>D.D.S.</td>
<td>Postgraduate Certificate Programs</td>
</tr>
<tr>
<td>Oral Biology</td>
<td>M.S.</td>
<td></td>
</tr>
<tr>
<td>Earth and Space Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geochemistry</td>
<td>M.S., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Geology</td>
<td>M.S., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>(Nonrenewable Natural Resources)</td>
<td>M.S.</td>
<td></td>
</tr>
<tr>
<td>Geophysics and Space Physics</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>M.Ed., M.A., Ed.D., Ph.D.</td>
<td>Credential Programs in Multiple and Single Subject Teaching, Bilingual Emphasis, Reading Specialist, Pupil Personnel Services, School Administrative Services, School Psychologist</td>
</tr>
<tr>
<td>Special Education</td>
<td>Joint Ph.D. with Cal State University, L.A.</td>
<td></td>
</tr>
<tr>
<td>Engineering and Applied Science</td>
<td></td>
<td>Certificate of Specialization (Engineering and Applied Science)</td>
</tr>
<tr>
<td>Computer Science</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>M.S., M.Engr., Engr., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>English as a Second Language</td>
<td></td>
<td>Certificate Program</td>
</tr>
<tr>
<td>Teaching English as a Second Language</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Environmental Science and Engineering</td>
<td>D.Env.</td>
<td></td>
</tr>
<tr>
<td>Folklore and Mythology</td>
<td>M.A., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>French</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>German Languages</td>
<td>C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>German</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Scandinavian</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Indo-European Studies</td>
<td>C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>MAJORS</td>
<td>DEGREES</td>
<td>OTHER</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Islamic Studies</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Italian</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Kinesiology</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Latin American Studies</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Law</td>
<td>J.D., LL.M.</td>
<td></td>
</tr>
<tr>
<td>Library and Information Science</td>
<td>M.L.S., Ph.D.</td>
<td>Certificate of Specialization Program</td>
</tr>
<tr>
<td>Linguistics</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>M.B.A., Executive M.B.A.</td>
<td>Certificates of Postgraduate Medical Study</td>
</tr>
<tr>
<td>Mathematics</td>
<td>M.A., M.A.T., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Medicine</td>
<td>M.D.</td>
<td></td>
</tr>
<tr>
<td>Microbiology</td>
<td>M.A., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Microbiology and Immunology</td>
<td>M.S.*, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Molecular Biology</td>
<td>Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>M.A., M.F.A. (Performance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Practices) C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Near Eastern Languages and Cultures</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Neuroscience</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>M.N.</td>
<td></td>
</tr>
<tr>
<td>Oriental Languages</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Pathology</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Pharmacology</td>
<td>M.S.*, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>M.S., M.A.T., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Physiology</td>
<td>M.S.*, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Psychiatry and Biobehavioral Sciences</td>
<td>M.A.</td>
<td>Certificate Program in Clinical Psychology Internship</td>
</tr>
<tr>
<td>Social Psychiatry</td>
<td>M.S.P. (not admitting new</td>
<td></td>
</tr>
<tr>
<td></td>
<td>students at this time)</td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>M.A.*, C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Public Health</td>
<td>M.P.H., M.S., Dr.P.H., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Biostatistics</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Preventive Medicine and Public Health</td>
<td>M.S.</td>
<td></td>
</tr>
<tr>
<td>Radiological Sciences</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Medical Physics</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Romance Linguistics and Literature</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Slavic Languages and Literatures</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Social Welfare</td>
<td>M.S.W., D.S.W.</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Spanish and Portuguese</td>
<td>C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Luso-Brazilian Languages and Literatures</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Theater Arts (Motion Picture/Television, Theater)</td>
<td>M.A., M.F.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
</tbody>
</table>

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

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 advisor. 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.

<table>
<thead>
<tr>
<th>Quarterly Expenses, Fall 1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>University registration fee $178</td>
</tr>
<tr>
<td>Education fee               284</td>
</tr>
<tr>
<td>Ackerman Student Union fee   4</td>
</tr>
<tr>
<td>Graduate Students Association fee 5</td>
</tr>
<tr>
<td>Wooden Recreation Center fee  3</td>
</tr>
<tr>
<td>Total for California residents $474</td>
</tr>
<tr>
<td>Nonresident tuition fee $1,120</td>
</tr>
<tr>
<td>Total for nonresidents $1,594</td>
</tr>
</tbody>
</table>

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

Other Fees

Miscellaneous fees 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

<table>
<thead>
<tr>
<th></th>
<th>Single, Commuter, Living at Parents’ Home</th>
<th>Single, Living at UCLA Residence Hall, Co-Op, Sorority, or Fraternity</th>
<th>Single, Living in Off-Campus Apartment or House</th>
<th>Married, Living in UCLA Family Student Housing</th>
<th>Married, Living in Off-Campus Apartment or House</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Fees</td>
<td>$1,423</td>
<td>$1,423</td>
<td>$1,423</td>
<td>$1,423</td>
<td>$1,423</td>
</tr>
<tr>
<td>Books &amp; Supplies</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
<td>450</td>
</tr>
<tr>
<td>Food &amp; Rent</td>
<td>1,200</td>
<td>2,400</td>
<td>4,625</td>
<td>5,620</td>
<td>7,215</td>
</tr>
<tr>
<td>Transportation</td>
<td>235</td>
<td>235</td>
<td>235</td>
<td>470</td>
<td>470</td>
</tr>
<tr>
<td>Personal</td>
<td>992</td>
<td>1,282</td>
<td>1,087</td>
<td>1,857</td>
<td>1,862</td>
</tr>
<tr>
<td>Total Budget</td>
<td>$4,300</td>
<td>$5,790</td>
<td>$7,820</td>
<td>$9,820</td>
<td>$11,420</td>
</tr>
</tbody>
</table>

*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).
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. They 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*

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>MASTER'S DEGREE</th>
<th>DOCTORAL DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC RESIDENCE</td>
<td>1 year (3 quarters) in graduate status at University of California, including 2 quarters at UCLA.</td>
<td>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.</td>
</tr>
<tr>
<td>PROGRAM OF STUDY</td>
<td>9 graduate and upper division courses (36 units) in graduate status, including at least 5 graduate courses.</td>
<td>No specific course requirements. Program is planned with adviser and guidance committee.</td>
</tr>
<tr>
<td>SCHOLARSHIP</td>
<td>B average required in all courses taken in graduate status at UC and in all courses applied toward the master's degree.</td>
<td>B average required in all courses taken in graduate status at UC.</td>
</tr>
<tr>
<td>FOREIGN LANGUAGE</td>
<td>Requirements are determined by individual departments and programs.</td>
<td>Requirements are determined by individual departments and programs.</td>
</tr>
<tr>
<td>ADVANCEMENT TO CANDIDACY</td>
<td>All requirements for advancement, including foreign language examinations, must be satisfied. Forms must be filed by second week of the quarter in which degree is to be awarded.</td>
<td>The 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.</td>
</tr>
<tr>
<td>FINAL REQUIREMENT FOR THE DEGREE</td>
<td>Master's thesis, or comprehensive examination (written, oral, or both).</td>
<td>Doctoral dissertation. A final oral examination in defense of the dissertation may also be required.</td>
</tr>
</tbody>
</table>

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

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

The master's program at UCLA consists of at least nine graduate and upper division courses (or any number of fractional courses totaling 36 units) completed in graduate 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 satisfied 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 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:
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 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 attestation 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. Residence 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 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. — 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.
- 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.
Academics
Units and Grading Policy

To understand the grading policies and regulations established by the Academic Senate, UCLA students are responsible for understanding this catalog and 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**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Superior</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
</tr>
<tr>
<td>C</td>
<td>Fair</td>
</tr>
<tr>
<td>D</td>
<td>Poor</td>
</tr>
<tr>
<td>P</td>
<td>Passed (equal to grade C or better)</td>
</tr>
<tr>
<td>NP</td>
<td>Not Passed</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
<tr>
<td>IP</td>
<td>In Progress</td>
</tr>
<tr>
<td>DR</td>
<td>Deferred Report</td>
</tr>
</tbody>
</table>

**Graduate Students**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Superior Achievement</td>
</tr>
<tr>
<td>B</td>
<td>Shows good potential for professional achievement</td>
</tr>
<tr>
<td>C</td>
<td>Passed but shows little potential for professional achievement</td>
</tr>
<tr>
<td>F</td>
<td>Failure</td>
</tr>
<tr>
<td>S</td>
<td>Satisfactory (equal to grade B or better)</td>
</tr>
<tr>
<td>U</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
<tr>
<td>IP</td>
<td>In Progress</td>
</tr>
<tr>
<td>DR</td>
<td>Deferred Report</td>
</tr>
</tbody>
</table>

For Undergraduates — The grade A may be modified by a minus (-) suffix, and the grades B, C, and D by a plus (+) or minus (-) suffix, to either raise or lower your grade-point average. The grades A, B, C, and P denote satisfactory progress toward the bachelor's degree, but a D grade must be offset by higher grades in the same quarter for you to remain in good academic standing. An F grade yields no unit or course credit.

For Graduate Students — The grades A, B, and C may be modified by a plus or minus suffix. The grades A, B, and S denote satisfactory progress toward the degree, but a C grade must be offset by higher grades in the same quarter for you to remain in good academic standing. Courses in which a C grade is received, however, may be applied toward graduate degrees.

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

Grade Points

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.0</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>0.7</td>
</tr>
<tr>
<td>F, NP, U</td>
<td>0</td>
</tr>
</tbody>
</table>

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

Computing Your Grade-Point Average

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

\[
\text{Grade Points} \times \text{Course Units} = \text{Total Grade Points}
\]

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course Units</th>
<th>Total Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>3.7</td>
<td>4</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td>4</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<td>4</td>
</tr>
</tbody>
</table>

To determine your GPA for the quarter, divide the total grade points earned (34.8) by the total course units attempted (12). Your GPA is 2.9.

For satisfactory standing, undergraduate students must maintain a C average (2.0 GPA) and graduate students a B average (3.0 GPA) in all courses taken at any campus of the University (except University Extension). Individual departments may require higher standards of achievement.

Only grades earned in regular session or Summer 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:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Completed Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>0 - 44.9</td>
</tr>
<tr>
<td>Sophomore</td>
<td>45 - 89.9</td>
</tr>
<tr>
<td>Junior</td>
<td>90 - 134.9</td>
</tr>
<tr>
<td>Senior</td>
<td>135 or more</td>
</tr>
</tbody>
</table>

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. Students may also be exempt from the P/NP option; consult your college or school for details.

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, 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 semes-
ter 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 mas-
ter's degree. For more details, see "Transfer of Credit" under The Mas-
ter's Degree, Chapter 3.

Transcript of Record
The Registrar prepares and permanently retains a record of each stu-
dent's academic work. Your transcript reflects all undergraduate and
graduate work completed in UCLA regular session and Summer Ses-
sion. 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 Reg-
istrar 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 (tran-
scripts 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 identifica-
tion 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 Regis-
trar'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 registra-
tion 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 registra-
tion 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 your work on time because your absence is late in the quarter or prolonged, you may request that the instructors assign an Incomplete grade (see "Incomplete Grades" earlier in this chapter).

One Quarter Absence for Undergraduates

Undergraduate students who have completed at least one quarter at UCLA and fail to register for a quarter, may return to the University the following quarter and preregister and preenroll as continuing students. If you plan to attend another institution (including University Extension) during your absence, you should consult your college or school counselor or before enrolling elsewhere. When you return to UCLA you must provide the 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.

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

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

Withdrawal

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

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

- First and second weeks of instruction: 100% refund
- Third week of instruction: 80% refund
- Fourth week of instruction: 60% refund
- Fifth week of instruction: 40% 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 courses. 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.
"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 Let-
ters 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 sci-
ences 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 concent-
trate on one field or subject and are required to pursue it rigor-
ously 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.
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.)*

*Graduate programs only; not applicable on breadth requirements

## 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/Appplied 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.)
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 memo-randa 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.

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

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>After completing 105 quarter units (26½ courses) toward the degree in all institutions attended, you will be allowed no further unit credit for courses completed at a community college.</td>
</tr>
<tr>
<td>(2)</td>
<td>No more than four units in physical education activities courses may be applied toward the bachelor's degree.</td>
</tr>
<tr>
<td>(3)</td>
<td>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.</td>
</tr>
<tr>
<td>(4)</td>
<td>No more than 12 units of music and/or dance performance courses may be applied</td>
</tr>
</tbody>
</table>

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

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 music courses are limited to one per degree.

College Level

No more than 24 units of credit earned after June 30, 1974, will not be applied toward the bachelor's degree. Space studies courses may be applied to the 180/182-unit minimum required for the degree.

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.

No more than two courses (eight units) of credit in aeronautics, military science, or naval science may be applied to the 180/182-unit minimum required for the degree.

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.

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.)

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.)

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

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 105; 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
- 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

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:

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

(B) Physical Sciences


(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, Geophysics 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

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credit Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>10 units toward humanities</td>
</tr>
<tr>
<td>Biology</td>
<td>Credit for Biology 2 (4 units) plus 6 units toward life science</td>
</tr>
<tr>
<td>Chemistry</td>
<td>10 units toward physical science</td>
</tr>
<tr>
<td>English</td>
<td>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)</td>
</tr>
<tr>
<td>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</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td>Credit for course 5 (10 units toward humanities)</td>
</tr>
<tr>
<td>Foreign Literature</td>
<td>10 units toward humanities</td>
</tr>
</tbody>
</table>
Credit for History 7A-7B (satisfies American History and Institutions requirement and counts as 10 units toward social science)

Credit for History 1C (4 units) plus European history (6 units) toward social science

Credit for Mathematics 31A (5 units toward physical science) *1

Credit for Mathematics 31A, 31B (10 units toward physical science) *1

10 units toward humanities

10 units toward physical science

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; (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
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, prenurses and other pre-health students (time and place are announced in the "What's Bruin" section of the Daily Bruin). 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: 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, Physics 3A, 3B, and 3C or 6A, 6B, and 6C or 8A, 9B, and 9C, Biology 5, 7, 8, 8L, 138, Psychology 10.

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, Physics 3A, 3B, and 3C or 6A, 6B, and 6C or 8A, 9B, and 9C; (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.

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, Physics 3A, 3B, and 3C or 6A, 6B, and 6C or 8A, 9B, and 9C; (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 and vary somewhat, you should consult the following publications: Medical School Admission Requirements, USA and Canada, Association of American Medical Colleges, 1 Du Pont 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 64 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.

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, 13 and 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. *Students who have completed the two-year prephysical therapy 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. Applications may be obtained from the Dean, School of Pharmacy, University of California Medical Center, San Francisco, CA 94122.
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)
Dennick B. Jelliffe, M.D. (Public Health)
Frederick C. Kinzer, Ed.D. (Education)
Peter Ladeeley, Ph.D. (Linguistics)
Michael F. Lotfie, 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 Posansky, 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)
Allegre 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. Kirane, Ph.D. (Germanic Languages)
Mazdi S. Kupferman, V.A. (Linguistics)
Dwight Read, Ph.D. (Anthropology)
Arnold Rubin, Ph.D. (Art History)
Hans Schellhammer, D.B.A. (Management Theory and International Business)
Russel G. Schuh, Ph.D. (Linguistics and African Languages)
Nathan Shapiro, 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 Ladeeley, 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 your proficiency in an African language with an average grade of B or better and by taking additional courses, which must be at the graduate level; (3) third discipline - a course on Africa, preferably of one discipline - a minimum of two 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 (4 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 Yoruba
134A-134B-134C. Advanced Igbo
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
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
155. Government and Politics in Africa
166A-166B-166C. Government and Politics in Sub-Saharan Africa
187. 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 Developing 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 1OA-1OB; 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).
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, 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, M154, M154, M157, M197, 197B;**


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


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 statement. 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 M168B.) 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).

M100B. 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).

M145. Ellingtonia. The course will explore the music of Duke Ellington, his life, and his far-reaching influence on the course 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, Countess 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 of 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. Topica in Afro-American Literature. (Formerly numbered M197A.) 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.
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)
Chaitan. 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)

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, M200B, 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
2008. 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 directed fieldwork.
Mr. Draper, Mr. Lincoln
M200C. Contemporary Issues of the American Indian. (Formerly numbered 200C.) (Same as Anthropology M289.) 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 Posey, Ph.D.
Douglas Price-Williams, Ph.D.
James R. Sackett, Ph.D.
Johannes Wilbert, Ph.D.
Roberta 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-Seayfarth, Ph.D.
Jennie Joe, Ph.D.
Gail E. Kennedy, Ph.D.
Paul V. Kroskry, Ph.D.
Nancy E. Levine, Ph.D.
Eugene L. Mendoza, 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 Watanabe, 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 inscriptive records.

Biological anthropology studies the diversity of the human physical characteristics and the biological characteristics underlying human behavior. The faculty in this field specializes in one of four subfields: (1) primatology or the study of the characteristics of monkeys and apes; (2) paleoanthropology, the study of fossil hominids and the evolution of man; (3) human genetics; and (4) evolutionary ecology of human and nonhuman primates.

Cultural anthropology is the investigation of ideational systems, including religious beliefs and mythologies, philosophical and other cognitive conceptions, world views and aesthetic configurations, and technologies transmitted from generation to generation.

Linguistic anthropology examines the diversity of natural languages and other communicative systems, the sociocultural patterning of their use, and their relationship to the cultural knowledge of their speakers.

Social anthropology, closely tied to sociology, studies the structure of human communities and the institutionalized social interaction systems. It examines the diversity of family forms and kinship, governance and political systems, law and the resolution of conflict, economic collaboration, social status and role, and certain aspects of religion.

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

The department offers the Bachelor of Arts degree in Anthropology for undergraduates; the graduate program leads to the Master of Arts 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: archaeological, 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 requirement 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-
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. Emphasizes various aspects of human and nonhuman primate behavior 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. Emphasizes comparative primate behavior, structural anatomy, and the fossil record. Students with credit for course 11 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. Emphasizes the cultural evolution of the human species. Students with credit for course 5B 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. Emphasizes the role of culture in shaping human behavior and decision making. Examples of 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 taboo, and social and cultural factors which promote and retard language change. The course thus emphasizes patterns of language use, rather than details of language structure. Mr. Kroskity, Ms. Mitchell-Kerrnan

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 cultural 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. Emphasizes comparative primate behavior and the fossil record. Students with credit for course 11 will not receive credit for this course.

113A. **The Prehistory of the Southwest.** (Formerly numbered 106A.) Prerequisite: courses 5, 6, or 22, or consent of instructor. The development of the Southwest as revealed by archaeological investigations. Mr. Meighan

113B. **Southwestern Archaeology.** An examination of the prehistory of the American Southwest from Early Man to historic times. Emphasis is on describing and explaining cultural change and comparing cultural organizations in the modern world. Evolutionary processes are generalized and related to contemporary world problems. Mr. Meighan

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 archeology and early colonial writings in Spanish and Nahuatl. Pre-Hispanic and early colonial influences 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 archeology and early colonial writings in Spanish and Mayan languages. Pre-Hispanic and early colonial influences 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 archeology and early Spanish and Quechua and Aymara writings. The Incas and their predecessors in Peru, with emphasis on sociopolitical systems, economic patterns, religion, and aesthetic and intellectual achievements. Mr. Morgan
115P. Archaeological Field Training. (Formerly numbered 170A.) Prerequisite: consent of instructor. Procedures of archaeological excavation, mapping, photography, collecting, and recording of archaeological data (field class conducted off campus).

115O. 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 their research. Special attention is given to sampling, typology, and taphonomic analysis. Techniques for the measurement of such important variables as population size, diet, seasonality, specialisation, and exchange are also considered.

Mr. Hill

115R. Historical Archaeology. (Same as History M103.) A survey of the aims and methods of historical archaeology as practiced on both sides of the Atlantic, with case studies drawn from North America, the Caribbean, Africa, and Europe. Mr. Posansky

116B. Laboratory Analysis in Archaeology. (Formerly numbered 116C.) Prerequisite: consent of instructor. Description and classification of archaeological collections: cataloging, typology, documentation. Preparation of archaeological reports for publication.

Mr. Meighan

118O. 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, thermoluminescence, and geochronometric methods. Applications of dating methods in archaeology and physical anthropology.

Mr. Frear

118A. Museum Studies. (Formerly numbered 178A.) Prerequisite: consent of instructor. Method and theory of museum operation. Acquisitions, storage, photography, conservation, and exhibition are discussed. A field trip visit to the Museum of Man is required.

Mr. Donnan and the Museum Staff

118B. Museum Studies. (Formerly numbered 178B.) Prerequisites: courses 118A and consent of instructor. Areas of museum operation are selected by the student. The course is designed 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 prehistoric to the early historic periods. 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.

Mr. Williams

121A. Fossil Man and His Culture. (Formerly numbered 111A.) Recommended prerequisites: courses 1.2, 121B. Course 121A should be taken before 121B and 121C. Introduction to the study of prehistory and the evolution of man. Lectures include the study of the Miocene and Pliocene.

Ms. Kennedy

121B. The Australopithecines. (Formerly numbered 111B.) Prerequisite: consent of instructor. Emphasis on the study of the genus Australopithecus. The history of their discovery, 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. Emphasis on the study of the genus Homo, including ancient australopithecines, and the neanderthals. The morphology, ecology, and behavior of our predecessors in the genus Homo. The influence of the history of their discovery, and their place in human evolution will also be discussed.

Ms. Kennedy


Mr. Hill

123. Human Genetics. Recommended prerequisite: consent of instructor. Emphasis on the study of the forces and causes of human biological variation. Instructional 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 underlying aging. 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.

Mr. Russell

124. Evolution and Biology of Human Behavior. (Formerly numbered 131.) A comparative survey of the behavior patterns of prehistoric and Paleolithic peoples and those of nonhuman primates. The biological variables fundamental to human and primate behavior will be assessed with regard to theories on the evolution of behavior.

Mr. Hill

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 discrete and quantitative variation. Analytical methods and evolutionary hypotheses are considered.

Mr. Hill

128P. Anatomy for the Humanities. (Formerly numbered 133A-133B.) Prerequisite: courses 1 and 2, consent of instructor. Limited to majors and graduate students. Laboratory methodology and analysis of human variation on skeletal material.

129. Laboratory Methods in Biological Anthropology. (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.

129P. 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.

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, functionalism, and structuralism, and the ecological and sociological concomitants of technological systems; selected problems in material culture.

Mr. Oswalt

132. Technology and Environment. (Formerly numbered 122C.) Significance of material culture in archaeological and ethnological research. Problems of invention and the acceptance of innovations; the ecological and sociological concomitants of technological systems; selected problems in material culture.

Mr. Russell

133P. Social and Psychological Aspects of Myth and Ritual. (Formerly numbered 141.) The course is aimed at introducing the social and psychological significance of myths, rituals, and symbols, with particular attention given to anthropological theories and interpretations of religious belief systems.

Ms. Levins, Mr. Mandonsa

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. Macquet

137R. Introduction to the Comparative Morphology and Phyletology 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 primates in anatomy and physiology. Lectures compare functional systems (e.g., locomotion) through the primate series. In laboratory sessions students will dissect regions of several living species and perform their own comparative analysis.

Mr. Russell

138A-138B. 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. Studies in the 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

139P. Laboratory Methods in Biological Anthropology (Skeletal). (Formerly numbered 171A.) Prerequisite: upper division standing. A survey of skeletal material, including the identification and measurement of anatomical variables, the study of the evolution of causal processes, and the significance of such processes for human behavior.

Mr. Hill

140. 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, functionalism, and structuralism, and the ecological and sociological concomitants of technological systems; selected problems in material culture.

Mr. Oswald

132. Technology and Environment. (Formerly numbered 122C.) Significance of material culture in archaeological and ethnological research. Problems of invention and the acceptance of innovations; the ecological and sociological concomitants of technological systems; selected problems in material culture.

Mr. Russell

133P. Social and Psychological Aspects of Myth and Ritual. (Formerly numbered 141.) The course is aimed at introducing the social and psychological significance of myths, rituals, and symbols, with particular attention given to anthropological theories and interpretations of religious belief systems.

Ms. Levins, Mr. Mandonsa

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. Macquet
133R. Aesthetic Anthropology. (Formerly numbered 144.) Prerequisite: upper division standing. Elaboration of a cross-cultural notion of aesthetic phenomena that meets the requirements of anthropological research. Aesthetic phenomena as cultural; their integration in a cultural system and 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, motivation, and other similar phenomena. Mr. Wilbert

135P. Introduction to Psychocultural Studies. Prerequisite: upper division standing or consent of instructor. A survey of the history and development of psychological anthropology. Topics are examined as they relate to the cross-cultural study of such things as personality, pathology and deviance, family, altered states of consciousness, cognition, perception, motivation, and other similar phenomena. Mr. Kernan

135Q. The Individual and culture. (Formerly numbered 143P) 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 personal behavior and social structure. Mr. Moerman

135R. Comparative Study of Socialization. (Formerly numbered 142.) Introduction to ethnographic data on socialization and child training. Theories exploring cross-cultural variability in socialization practices. Current methods and research topics in the field. Mr. Wilbert

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 is emphasized, with students gaining 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 these settings 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 Ethnography. (Formerly numbered 172.) Introduction to 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. Examples may 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 anthropologi. It focuses on techniques, methods, and concepts of ethnographical research, and basic observational information is systematically presented 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 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 provides 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 Practice. (Formerly numbered 180.) Prerequisite: upper division standing or consent of instructor. The course has two interrelated objectives: (1) to provide a strong introduction to 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 relationships between the dynamic, tacit, and kinetic 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 course 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 field interviews 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 among America's Native peoples. The focus is on language as a marker of identity and the speech communities. Specific foci include both macro- and micro-sociolinguistic topics. Micro-sociolinguistic topics are comprised of such issues as multifunctionalism, cultural variation 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

145. Afro-American Sociolinguistics: Black English. Lecture, three hours. Prerequisite: consent of instructor. The course aims to provide basic information on Black English, an important minority dialect in the United States. The social implications of and minority dialects will be examined from the perspective of their genesis, maintenance, and social functions. General problems and issues in the fields of sociolinguistics will be examined through a close study of the course concurrently scheduled with course CM243G. 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 organizational forms of society are explored. The course concentrates on the sociocultural 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 emphasis is on the relationship between kinship and other aspects of the sociocultural system and interpretation 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; the study of social formation, 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. Western, non-Western, and comparative perspectives. 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 through the lenses of specialization, 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. Ms. 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 sociocultural aspects of religious systems cross-culturally. Mr. Kroskrity

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 144P) The course will introduce students to the comparative study of religious ideologies and action systems. These include the understanding of particular religious entities, their social characteristics, and the identification of social and psychological factors which may account for variation in religious systems cross-culturally. Mr. Newman
Social Action/Applied Anthropology

160. Introduction to Social Action Anthropology. Lecture, three hours. Prerequisites: 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 peopling of the world, the different kinds of tribal peoples, the proletarization of peasants, and the urbanization of ruralities. Particular emphasis on the relation between national, international, and localized sociocultural systems; 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 reservations. Topics include self-determination, land claims, activism among Indian tribes, and the role of the Bureau of Indian Affairs. Ms. Levine

163. Women in Culture and Society. (Formerly numbered 163.) As a woman's studies course. 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

164. The African 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 through a comparative and diachronic perspective on the African-American experience in the New World. It is concerned with the utilization of anthropological concepts and methods in understanding the origins and maintenance of 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 the 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 psychological analysis. The cases are taken from the United States, 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 nonindustrial peoples. 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 psychoanalytical anthropology and sociocultural applications of psychoanalytic theory and method, toward a cross-cultural psychoanalytic approach. Mr. Johnson

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 pluralism of civilizations, each based on a particular association of an environment (dry savanna, grassland, equatorial forest, highlands) with a dominant technique of acquisition/production (hunting/gathering, cereals growing, cattle herding, commercial coastal trade). Mr. Maquet, Ms. 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 the ethnographic and historical development of the Pueblo Indian societies (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. Meighan

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 Pueblo 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.) Prerequisites: course 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, economics, political institutions, sacred and secular belief systems, and expressive cultures. 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. Mr. Johnson

175Q. Latin American Communities. (Formerly numbered 105C.) An introduction to the social and cultural anthropology of small communities in Latin America. Similarities and contrasts in social organization and interpersonal relations are described in terms of economic, political, and cultural environments. Mr. Johnson

South America

174P. Ethnohistory 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 the 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 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 focusing on a major religious tradition (Hinduism, Buddhism, and Islam). Mr. Levine

175Q. 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 the 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, religious, and historical patterns. Mr. 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; values 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. Mr. Newman

Pacific

177. Cultures of the Pacific. (Formerly numbered 106.) 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 19th century. The course will examine the "root paradigm" of Western social science and examine its influence on such notables as Durkheim, Freud, Hall, Leroi-Gourhan, 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 archaeological theory and practice reflect social and cultural change. 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-functionalist and evolutionary thought. Mr. Sackett

186. 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

189A-B. 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. 189A emphasizes methods of data analysis and topics such as data description, sampling, estimation procedures, and hypothesis testing. 189B covers topics from statistical modeling (e.g., linear regression models) and deterministic modeling (e.g., network models, kinship structures, systems, models). Mr. Mendosa

190A-B. Analytical Methods in Archaeological Studies. (Formerly numbered 210A-B.) 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-functionalist and evolutionary thought. Mr. Johnson

Special Studies

191. Writing for Anthropology. (Formerly numbered 181.) Prerequisite: course 5. Students learn writing skills in various academic formats, including term papers, statistical analysis, research papers, 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

198. Special Studies in Anthropology (1 to 2 courses). Prerequisite: consent of instructor. Eight units may be applied toward the upper division anthropology courses required for the major. Mr. Earle

199A. Directed Studies for Honors. Discussion, three hours. Prerequisite: honors major in anthropology. Discussion meetings with the adviser to help define the research and preparation for the project. Extensive reading and research in the field of the proposed honors thesis. The project will often involve summer fieldwork. In Progress grading. Mr. Sackett

199B. Directed Studies for Honors. Prerequisites: course 199A 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. Mr. Sackett

199C. Directed Studies for Honors. Prerequisites: courses 199HA, 199HB, honors major in anthropology, or consent of instructor. Preparation of the final defense 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. Mr. Sackett

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 non-repetitive in content and may be repeated for credit with consent of instructor and graduate counselor. Mr. Hill

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 be based 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. Mr. Read

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. 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, and 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 ethnology to archaeological problems. May be repeated for credit. Mr. Meighan, Mr. Nicholson

219A-B. Graduate Core Seminar in Archaeology (11/2 courses each). (Same as Archaeology 201A-B.) Prerequisite: consent of instructor. Required of all students in the archaeology field. Seminar discussions based on a carefully selected list of 50-60 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 an examination of archaeological methodology, 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. Mr. Meighan, Mr. Nicholson

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. Mr. Meighan

221A-221B. The Fossil Evidence for Human Evolution. Prerequisite: consent of instructor. Course 221A is prerequisite to 221B. No credit will be allowed for both courses. Prerequisite: consent of instructor. Mr. Meighan, Ms. Kennedy

222. Directed Studies for Honors. Discussion, three hours. Prerequisite: honors major in biological 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. Mr. Hill
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, and the factors causing gene frequency change.

Mr. Williams

M220Q, Probability Models and Statistical Methods in Genetics. (Formerly numbered M220B.) (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 estimating 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 222G 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.

Mr. Williams

M223S, Population Genetics. (Formerly numbered 223E) 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.

Mr. Russell

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 226F) Selected topics on the status of current research in biological anthropology. May be repeated for credit. S/U grading.

Mr. Seyfarth

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


M229A-M229B-M229C, Seminar: Selected Topics in Human Ethology. (Same as Education M281A-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. Blanton Jones (F, W, Sp)

M229D, Animal Models of Communication and Psychiatric Disease. (Same as Psychiatry M226.) Lecture, six hours. Prerequisite: consent of instructor. Examination of the behavior of living nonhuman primates with emphasis on the nature and function of communication, particularly among free-living species. (Discussion topics to be announced.)

Mr. Williams

M230P, Ethnology. (Formerly numbered 269P) Prerequisite: consent of instructor. A seminar on ethnographic method and theory concentrating on ideational systems. May be repeated for credit.

Mr. Wilbert

M230Q, 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 253L) Prerequisite: graduate standing. This seminar will examine the effect of class, caste, and race on the Asian American personality in 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 United States. May be repeated for credit.

Mr. Williams

232Q. Myth and Ritual. (Formerly numbered 269Q) Prerequisite: consent of instructor. This seminar discusses nature and function of myth and ritual in non-Western societies. It will treat topics such as "cultural specificity" and "cultural universality" as well as "myth," "ritual," and "ethnic identity." It will deal with questions relating to symbolic and unconscious processes 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" and "mental retardation," 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. Concepts include both cultural perspectives, with an emphasis on 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

M235P-M235Q, The Individual in Culture. (Formerly numbered 235A-B) (Same as Psychology M213A-M213B.) Lecture, three hours. Course M235Q is prerequisite to M235P. In Progress grading.

M236P, Selected Topics in the Cross-Cultural Study of Socialization and Child Training. (Formerly numbered 236P) (Same as Psychiatry M214B.) 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

M237A-M237B, A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Formerly numbered M260P) (Same as Education M222A and Psychiatry M235.) Lecture, three hours. Prerequisite: consent of instructor. The skill of observing and recording human 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 are expected to integrate observational work into their current research interests. May be repeated for credit.

Mr. Galimore, Mr. Turner (W)

M237A-M237B, Basic Core Courses in Mental Retardation Research (each), (Same as Psychiatry M219A-M219B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Required of all MRRC trainees. 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, lexical-statistics, semantic analysis, linguistic acculturation, sociolinguistics, and ethnolinguistics. Mr. Kroskrity

241. Topics in Linguistic Anthropology. (Formerly numbered M241C.) (Same as Linguistics M242C.) 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 linguistic and 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 and language development, 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 it imposes 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.

Mr. Kroskrity

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 269P.) Prerequisite: consent of instructor. May be repeated for credit.

Mr. Johnson

252. 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 development are analyzed 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. Lectures, three hours. Prerequisites: course 152P, special permission of instructor. Seminar participates 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 269F.) Prerequisite: course 157 or consent of instructor. Questions concerning the ideological, 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 253.) 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 258.) Prerequisite: consent of instructor. 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 refugee resettlement, with recommendations for action.

Mr. Hammond

262. The Cultural Context of Health Care. (Formerly numbered 258P.) 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 problems, with an emphasis on the intersections of medical anthropology and the sociological study of health care and medicalization.

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 in cross-cultural anthropology. The Mexican-Chicano people in North America, including social organization, economic and political systems, belief and value systems, linguistic and expressive adaptations, and individual and group cultural contexts. Topics very 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

M257B-M267C. Ethnographic Film Direction (1 or 2 courses each). ( Formerly numbered M294B-M294C.) Same as Theater Arts M267A-B (U). 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, M257B; Sp, M267C)

268. Issues in Social Action Anthropology. Prerequisite: 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 cultures M200A and the cultural and expressive experience of American Indians presented in American Indian Studies M200B. Mr. Read

Regional Cultures

271. African Cultures. (Formerly numbered 254.) Prerequisite: consent of instructor. Survey of the literature and problems of African culture.

272. 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 problems of the various cultures of South America. May be repeated for credit. Mr. Wilbert

273. Cultures of the Middle East. (Formerly numbered 255.) Prerequisite: course 178 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 classical 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: evolutionary, cultural ecology, British functionalism, French functionalism, structuralism, cultural and personality, psychological anthropology (Freudian, neo-Freudian, non-Freudian), behavioral anthropology, cognitive anthropology, and ethnomethods.

281. Selected Topics in the History of Anthropology. Prerequisite: consent of instructor. 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.

283. Mathematical Models in Anthropology. (Formerly numbered 262.) 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.

284. 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.

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 Apprentices Practicum (½ 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 advisor 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. Special Studies for Graduate Students (½ to 2 courses). Prerequisite: consent of instructor. Directed individual study. S/U letter 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)
Kaino A. Antilla, 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. (Linguistics), Chair
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 Prael, Ph.D., Emeritus (English)

Associate Professors

Roger W. Anderson, 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. Hinolotis, 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 210A 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 (1 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. Dissertatation (1 to 4 courses). Prerequisite: advanced 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 Educational Process
212C. Cognition and Creativity in Education
212D. Candidacy Examination (1 to 2 courses)

Language as a Second Language 269K. Psycholinguistics and Language Teaching
261K. Second-Language Acquisition
599. Research for and Preparation of Ph.D. Dissertation (1 to 4 courses). Prerequisite: advanced 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.

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
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

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. Seminar for Teachers of English as a Second Language
223K. Role of English as a Second Language in Bilingual Education
M224K. The Teaching of English for Minority Groups
229K. Current Issues in Language Education
232K. Advanced Seminar in the Construction and Administration of Language Tests

267. Selected Problems in Communication
266. Selected Problems in the Analysis of 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. Osvalt, Ph.D. (Anthropology)
Merrick Rosensky, 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 Clement, 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 DeNero, Ph.D. (Geochemistry and Archaeological Sciences)
Bernard D. Frischer, Ph.D. (Classics)
Gail E. Kennedy, Ph.D. (Anthropology)
Deborah Kimburg-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 archaeological sciences; Europe; India and Central Asia; Meso-America; Pacific; paleoenvironmental studies; Western North America.

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 is 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 second 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 198s) 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 examinations 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 examining during the oral qualifying examination.

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

Upper Division Course

Mr. Clement
Graduate Courses

Prerequisite for all courses: consent of instructor. All courses may be repeated for credit upon recommendation of the adviser.

260. 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 archeologists 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 (2½ hours as 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.

210. Archaeological Materials Identification and Characterization (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 isotopic distributions in archaeological materials; analytical procedures for measuring isotopic ratios; dietary reconstruction; paleodiet analysis; determination of provenience of archaeological materials; analysis of effects of the biochemical and physiological processes of animals. Mr. Kiernan.

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 isotopic distributions in archaeological materials; analytical procedures for measuring isotopic ratios; dietary reconstruction; paleodiet analysis; determination of provenience of archaeological materials; analysis of effects of the biochemical and physiological processes of 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). Topic 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.


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

123P. Laboratory Methods in Biological Anthropology: Skeletal

132. Technology and Environment

138. Methods and Techniques of Ethnography

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 1156. 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

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
200A-200B. Introduction to Asian American Studies. This survey sequence is an introduction to Asian American studies. 200A deals with the history of Asians in America. 200B 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-Asian labor legislation, legal prohibitions against Asians, right to testify, case law, Asian women, and equal educational opportunity for Asians.

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. Nakashima

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 (1/2 to 2 courses). Hours to be arranged. Prerequisite: consent of instructor.


Related Courses in Other Departments

Anthropology M163. Women in Culture and Society
M164. The Afro-American Experience in the United States
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 Zucker, 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 broad background in physical science with a specialization 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 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 physical sciences 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

The Major

Honors Program
Senior majors in astronomy with a 3.4 grade-point average in all astronomy, mathematics, and physics courses are eligible for the honors program in astronomy. In addition to completing all courses required for the major, the honors student must complete two quarters of...
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 of the final examination for the course which normally is 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.

**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.

4. Topics in Modern Astronomy. 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 qualifications. Particularly recommended to declared or potential majors in astronomy or in physical and mathematical sciences.

5. Life In the Universe. 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 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 the formation of the solar system, are treated in some depth, but without formal mathematics, emphasizing their significance and relationships to other sciences.

6. 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.

**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.
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.

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, meteoroids, meteors, satellites and planets, planetary atmospheres. Origin and evolution of the solar system. Mr. Aller, Mr. Ulrich.


Topics in high energy astrophysics.

Mr. Aller, Mr. Grandi, Mr. Jura


N.G. 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 over photography, phototubes, image tubes, spectrophotometry, spectroscopy, stellar motions, and wavefront-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
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 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 dynamics 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 atmosphere 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 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; predicted methods and status of weather modification. Mr. Thorne, Mr. Wurtele (S).

3H. Introduction to Atmospheric Sciences. Lecture, three hours; discussion, two hours. Prerequisite: Physics 8 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
COLLEGE OF LETTERS AND SCIENCE / Atmospheric Sciences / 103

12. Forecasting Seminar (1/2 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. Students are qualified and evaluated objectively. No prior experience required. Mr. Wakimoto

Upper Division Courses


Mr. Thorne (F)


Mr. Wakimoto (W)


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, 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; 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 fluid. (Sp)

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 atmospheric tides. Waves. 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. Stratocumulus. 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 formation and ice forming nuclei; development of precipitation in clouds; cloud chemistry, cloud electricity.

Mr. Montague


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)

155. 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 traditional upper and lower charts. Graphical determination of vorticity. Graphical determination of large-scale vertical motion. Discussion of cyclone development.

Mr. Wakimoto (Sp)

161. Laboratory in Atmospheric Dynamics. 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.

165. Laboratory in Meteorological Observation. 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, and public use. Neering 10C or 10F, or consent of instructor. Numerical solution of problems selected from atmospheric dynamics. Introduction to numerical weather prediction.

166. Laboratory in Meteorological Physical Processes. Laboratory, six hours. Prerequisite: consent of instructor. Parameterizations of sub-grid scale processes.

Mr. Wakimoto

167. Special Studies in Meteorology (1/2 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. Experimentation and theory of buoyant bubbles and plumes. Thermodynamics of moist air, convection, and 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

208A. Atmospheric Turbulence. Lecture, three hours. Kinematics of homogeneous and stratified 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; effect of high pressure systems; urban complexes; meteorological factors and air pollution potential; meteorological aspects of air pollution control.

Mr. Wurtele


Mr. Arakawa


Mr. Mechoso

212A. Numerical Methods in Geophysical Fluid Dynamics. Lecture, three hours. Prerequisite: course M149 or consent of instructor. Basic numerical methods for solving partial differential 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


Mr. Yanai


Mr. Yanai

218B. Dynamics of the Tropical Atmosphere II. Lecture, three hours. Prerequisite: course 210A. Planet-scale internal wave systems. Planetary 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

219. Special Topics in Dynamic Meteorology (1/2 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
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 structure 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

Related Courses in Other Departments

Astronomy 101, 103, 104

Biomathematics 202

Chemistry and Biochemistry 103, 110A, 110B, 123A-123B, 215D, 223C, 225

Earth and Space Sciences 101, M149, M154, 202, 203, M211, Z14, 226, 250, 261


Biochemistry

See Biological Chemistry (School of Medicine), Biology, and Chemistry and Biochemistry

Biological Chemistry

See Chapter 15 on the School of Medicine
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
(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: courses 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 5 (may be taken concurrently). Introduction to laboratory techniques, including basic concepts of microbiomicroorganism 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, and 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 introduced species. 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 the study of evolution, including the fundamental concepts of evolutionary thought and the interrelationships of evolutionary thought to other areas of knowledge and society. Natural selection and the origin of variation are examined in the context of genetic and molecular biology, physiology, phylogeny, population dynamics, behavior, and ecology. Stress is on the critical role of historical processes. (F)

14. 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 population genetics, molecular biology, Mendelian 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 a research borrower 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. Prerequisite: 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, development, and biological population 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, hornworts, 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 core sequence surveying the entire plant kingdom 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 core 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 the local flora 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). Lecture, four hours; laboratory, twelve hours. Prerequisites: one or both of courses 5 and 6, 110 or 111, or consent of instructor. An advanced introduction to the systematics, evolution, natural history, morphology, and physiology of flowering plants. 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 covers, laboratory, and field trips; labor- atory 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 as the four-unit course, followed by an extended field trip where students will do individual field projects in insect biology.

Mr. Greenfield

108. Terrestrial Arthropoda. Lecture, three hours; laboratory, six hours; field trips. Prerequisites: courses 107 or consent of instructor. Systematics, distribution, and biomics of hexapods and arachnids.

109. The Development of Evolutionary Theory. Lecture, three hours; discussion, one hour. Limited to 80 students. A review and critical evaluation 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 were conceived.

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 systematics. 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 equivalent and 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 explore the fishes of the Southern California shoreline, tidepools, and coastal streams.

Mr. Noether

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 anatomy 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 or equivalent and consent of instructor. The evolution, ecology, behavior, and physiology of birds.

Mr. Howell

115. Mammalogy. Lecture, two hours; laboratory and field trips, six hours. Prerequisites: courses 5, 6, 6L. The systematic study of animal life and vertebrate morphology, ecology, and taxonomy.

116. Evolution and Systematics. Deep Time. Lecture, two hours; laboratory, six hours. Prerequisite: consent of instructor. Limited enrollment. The origin and adaptive radiation of mammalian teeth is considered. Special emphasis upon morphological aspects of adaptive radiation. Toth history and systematics of mammals and their fossils 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 10. 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 mammals.

Mr. Vaughn (Sp)
108 / Biology / COLLEGE OF LETTERS AND SCIENCE

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 morphol- ogy, paleobiology, and evolution of vascular and nonvascular plants during geologic time, with particular emphasis on major evolutionary events.

119. Mathematical Ecology. Lecture, three hours. Prerequisites: course 6, Mathematics 32A, or consent of instructor. Recommended: course 122. Models of population growth and interspecies interac- tions, formulated as multidimensional, nonlinear differ- ential, 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 bio- logical majors specializing in environmental and population biology. Introduction to the mechanics and pro- cesses of evolution with emphasis on natural selec- tion, population genetics, speciation, evolutionary rates, and patterns of adaptation.

Mr. Cody, Mr. Hespenheide (W)

121. Seminar in Ecology (½ course). Prerequisites: courses 120 or 122 and consent of instructor. Under- graduate 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." 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. 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 or for 122, and the field instructor will participate as a concentrated five-week course for eight units. A study of ecological variation, structure, distribution, and re- productive 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 fol- lowed by an extended field trip where students will do individual projects in behavioral ecology.

Mr. Nairns

127. Soils, Plants, and Society. (Same as Geog- raphy M127.) Lecture, three hours; field trips. Prerequisites: Chemistry 11A, 11B, 11C, or equivalent, or consent of instructor. A general treatment of soil de- velopment and morphology and the physical and chemical properties of soils as they relate to plant growth and distribution with emphasis on the use of soil resources, conservation, and cultural aspects. Soil profiles ex- amined on the field trip are used to explain develop- mental phenomena.

Mr. Lunt

128. Plant Physiological Ecology (1 or 2 courses). Lecture, two hours; laboratory and field, eight hours. A study of plant-phenotypic interactions under natural conditions. Emphasis is on transpiration and photosynthesis, leaf temperatures, and wa- ter movement in the soil-plant-atmosphere continu- um. 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 cor- respondingly expanded.

Mr. Nobel

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

Mr. Taylor

130. Behavior Research Problems. Lecture, three hours; laboratory, two hours. Prerequisites: courses 5, 6, and consent of instructor. Systems controls and nonoblivious sensing procedures for behavior stud- ies in research and in the 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 a single field trip conducted between quarters, followed by lectures and tutorials for three weeks. 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. 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. Nairns

133. Population Genetics. Lecture, three hours; dis- cussion, one hour. Prerequisite: course 9. Highly rec- ommended: 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 condi- tions and the forces altering gene frequencies, poly- genic inheritance, and the methods of quantitative genetics.

Mr. Taylor

136A-136B-136C. Seminar in Genetics (½ course each). Prerequisites: course 8 and consent of instruc- tor. Undergraduate seminar in genetics; reading and group discussion of current research in genetics.

Mr. Siegel (F, W, Sp)

137. Morphogenesis. Lecture, three hours; discus- sion, one hour. Prerequisite: completion of "Preparation for the Major." Study of embryonic development. Emphasis will be on the morphogenetic events in insects and vertebrates. Laboratory matching the major will involve dissection of major invertebrate and vertebrate classes, and for the major in vertebrates, dissection of the major invertebrate and vertebrate systems.

Mr. Nobel (F)

142A-142B-142C. Seminar on Topics in Developmental Biology (½ course each). Prerequisites: courses 138 and consent of instructor. Undergraduate seminar on topics in developmental biology. Reading and group discussions of current research.

Mr. Langley, Mr. O’Connor, Mr. Tobin (F, W, Sp)

144. Molecular Biology. Lecture, three hours; dis- cussion, one hour. Prerequisite: completion of "Preparation for the Major." Highly recommended: course 8. A course in molecular biology emphasizing the synthesis, structure, function, and interactions of biologic macromolecules.

Mr. Goldberg, Ms. Tobin (Sp)

145A-145B-145C. Molecular Biology Laboratory. Laboratory, twelve hours. Prerequisite: consent of in- structor. Highly recommended: course 144. A course in experimental molecular biology in which the stu- dent carries out original research under supervision. Space is limited, and arrangements must be made in advance with the instructor.

Mr. Salser (F, W, Sp)

148. Physicochemical Biology. Lecture, three hours; discussion, one hour. Prerequisites: courses 5 and 7, or consent of instructor, and Physics 6C or equivalent. A physicochemical analysis of the physiology of cells and organelles, with emphasis on membranes, ther- modynamics of solute and water movement, light ab- sorption, 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. Includes physical, chemical, and biological factors affecting the composition and distribution of plankton. Natural his- tory of major phytoplankton and zooplankton taxa; productivity of food chains; adaptations to pelagic habitat. Laboratory includes systematic, mor- phology of major plankton taxa; experimental studies of local marine plankton, with emphasis on mea- surement of feeding, primary and secondary produc- tivity, 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 basic concepts of structure, reproduction, life histories, systematic, 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; pigments, lipids, proteins, and nucleic acids; the cell wall; terpenes; alkaloids and flavonoids.

Mr. Thomberg

150. Experimental Physiological Mycology 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, physiological, and ecological aspects of microorganisms.

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 normal and abnormal aspects of functional histology, using light and electron microscope information. Discussion of histological research methods.

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. Experimental and advanced methods in ultrastructural analysis, electron microscopy. Interpretation of structural information.

Mr. Stospal

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 Biochemistry and CM155.) 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 medical genetics. Laboratory investigations in the laboratory 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 CM155.

Mr. Merriam, Ms. Spence (W)

157. Gene Manipulation: Genetic Engineering. Lecture, three hours. Prerequisites: 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. Saizer

158. Cell Biology (1 1/2 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 the environment. Stomatal movement across membranes and through tissues. Hormonal control of growth and development. Photosynthesis and photooxidation. Physiological aspects of photosynthesis. Mr. Laties, Mr. Thorberg (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 choosing.

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 marine vertebrates will be studied in the diverse assemblage of 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. Emphasis on 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. Repp

166. Animal Physiology (1 1/2 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 interrelationships. Students with credit for course 167 will not receive credit for this course.

167. Regulatory Physiology (1 1/2 courses). Lecture, three hours; laboratory, five hours. Prerequisite: completion of "Preparation for the Major." An introduction to whole animal 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. Prerequisites: 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.

Mr. Gordon

171. Principles of Neurobiology. Lecture, three hours; discussion, one hour. Prerequisite: course 166 or consent of instructor. An introduction to basic principles of neurobiology, including a description of the structure of neurons and nervous systems; the ionic mechanisms responsible for generating membrane potentials, action potentials, and synaptic potentials; the properties of synaptic transmission, the information transmission and coding in sensory pathways, and the neural control of movement; development of and trophic interactions between cells of the nervous system.

Mr. Eckert, Mr. O'Leage

172A-172B. Introductory Laboratory in Neurophysiology. Laboratory, eight hours. Prerequisite: course 158 or consent of instructor. Limited enrollment. Course will focus on 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'Leage

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 of the biological systems.

Ms. Szego

178. Invertebrate Endocrinology. Lecture, three hours. Prerequisites: course 158 or 166 or consent of instructor. A comprehensive treatment of invertebrate endocrinology.

Mr. Engerman

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 development. Ms. Sjostad

181. Parasitology and Symboiosis (1 1/2 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: courses 152 or 158 and consent of instructor. Laboratory, twelve hours. Prerequisite: course M187. Course M186 must be taken concurrently. Introduction to experimental immunobiology and immunochemistry; cellular and molecular aspects of humoral and cell immunology.

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 M186 must be taken concurrently. Student presentation of selected papers from the immunology literature. Discussion will serve as a forum for the critical analysis of research papers.

Mr. Clark, Mr. Sercarz (W)

188. Seminar on Biology and Society (1 1/2 courses). 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
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 organismal plant biology, including plant cell and tissue characteristics, plant growth and development, transport of solutes, gas exchange, environmental physiology, and the biology of phytohormones. Mr. Phinney, Mr. D. Walker

202. Principles of Systematics and Taxonomy. Lecture, three hours; discussion, two hours. Prerequisite: course 120. 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 pelagic 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. Buth

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. Concepts of biology at the molecular level: cell structure and function, enzyme catalysis, assembly of biological structures, membrane properties, active transport, electrophysiology, and energy transduction. Biological applications of probability, statistics, and fluctuation analyses 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 fundamental 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. Mr. Merriam

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, behavior, and ecology. Students will carry out individual study projects in laboratory, museum, or field. Mr. Howell

211. Animal Sociology. Lecture, two hours; discussion, one hour. Prerequisites: course 129 or equivalent. The course will cover topics in animal behavior. Mr. Nagy

213. Community Ecology (½ course). Lecture, three hours. Prerequisites: courses 122 or equivalent, one course in 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 equivalent. Theoretical consideration of the structure and function of animal communities, in theory and in practice (includes the concepts of coexistence, competition, niche, and diversity). Mr. Cody

217. Marine Ecology (2 courses). Structure, diversity, and energetics of marine communities; behavior, population dynamics, and biogeography of component species; biological and ecological properties of marine ecosystems. Mr. Taylor, Mr. Vance

218. Oceanography (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 oceanography. 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 122 and consent of instructor. Limited enrollment. Laboratory and field study of selected problems in animal behavior. Mr. Collins

M220. Multigene Families. (Same as Anatomy M213.) Prerequisites: comparative genetics and courses 119 or equivalent. The concept of the multigene cluster. 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 animal tissue, cell lineage, behavior, and X chromosome inactivation. Mr. Merriam

222A-222F. Topics in Genetics. Prerequisite: course 8. Intensive study of selected topics.

222A-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.

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.

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 M212, 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 replicas.

Mr. Ray

228. Prokaryotic and Eukaryotic Gene Systems (½ course). Presentations concerning current experimental approaches in the study of DNA replication, 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 technique, nucleic acid analysis, and studies on viruses and protein crystals. Mr. Eisenberg, Mr. Eisinger, Ms. Kasamatsu, Mr. Lake (F)

M230B. Structural Molecular Biology (½ course). (Same as Chemistry M230B.) Lecture, two hours; discussion, one hour. Prerequisites: Chemistry 6C, Mathematics 32A and 32B, 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 viruses; enzymes; harmonic analysis and Fourier transforms; principles of electron, neutron, and X-ray diffraction; optical and computer filtering; three-dimensional reconstruction. Mr. Eisenberg, Mr. Eisinger, Mr. Lake (W)
M230C. Structural Molecular Biology Laboratory. (Same as Chemistry M230C and Microbiology M230C.) Laboratory, ten hours. Prerequisite: consent of instructor based on 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. Eisering, 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. Eisering, Mr. Lake, Mr. Sweet (W)

211. 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

221. Experimental Molecular Developmental Biology (2 courses). Lecture, one hour; discussion, two hours; laboratory, four hours. Prerequisites: courses 136, 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, six hours; discussion, two hours. Elective courses. Prerequisites: courses 136, 144, and/or consent of instructor. A laboratory course in the biochemical expression and regulation of differentiation in eukaryotes.

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

237. 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'Conor

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

241. Laboratory in Advanced Electrophysiology (2 courses). Laboratory, twelve hours. Prerequisites: courses 172A-172B or equivalent and consent of instructor. In-depth involvement in ongoing 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 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 3C, and consent of instructor. Open to qualified undergraduates by consent of instructor. Physical properties of animal signals and the physiological mechanisms of signal perception. Emphasis will be placed on the role of communication in animal behavior.

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. Engemann

246. Plant Molecular Biology. In-depth study of current research in molecular biology as they pertain to plants. Subjects include gene expression and organization, gene engineering, organelar structure and function, nitrogen fixation, plant viruses, and others. Content varies from year to year. May be repeated for credit.

Mr. Goldberg, Mr. Thornber, Mr. Tobin


247A. Control of Growth and Development in Plants. Ms. Tobin, Mr. Phinney

247B. Plant Genetics. Mr. Goldberg

247C. Organelle Development and Function in Plants. Mr. Galvez, Mr. Gonzalez

247D. Plant Physiology. 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. A laboratory course designed to introduce students to techniques used in plant biochemistry research.

Mr. Chapman, Mr. Thomber

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

Mr. Macniss

250A. Advanced Immunology (½ course). (Same as Microbiology M250A and Immunology M250A.) Lecture, nine hours; discussion, nine hours. Prerequisites: courses 144 or 138, or consent of instructor. An intensive course designed to provide a broad overview of the basic immunology courses and the current 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; interactions of the two lymphocyte subpopulations in the production of immunoglobulin, and cell-mediated immunity. S/U or letter grading.

250B. Advanced Immunology (½ course). (Same as Microbiology M250B and Immunology M250B.) Lecture, nine hours; discussion, nine hours. Prerequisites: course M185 or Microbiology and Immunology 202A, or equivalent, and course M250A, or consent of instructor. An intensive course designed to provide a broad overview of the basic immunology courses and the current 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; interactions of the two lymphocyte subpopulations in the production of immunoglobulin, and cell-mediated immunity. S/U or letter grading.

251. Seminar in Plant Systemsatics (½ course).

Mr. Thompson


252. Seminar in Plant Structure (½ course).

Mr. D. Walker

254. Seminar in Plant Morphogenesis (½ course).

Mr. Phinney, Mr. D. Walker

255. Seminar in Invertebrate Zoology (½ course).

Mr. Muscatine, Mr. Simpson

256. Human Genetics. (Same as Biomatics CM256.) Lecture, three hours; discussion, one hour. Prerequisites: course 6, Chemistry 25. The application of genetic principles in human populations, with emphasis on cytogenetics, biochemical genetics, population genetics, and family studies. Lecture course. Literature will focus on recent advances of the past five years. Satisfactory completion of course 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. D. Walker, Mr. Simpson

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 molecular biological research and the biomedical industry. Prerequisite: S/U or letter grading.

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 (1/6 course). Mr. Bartholomew, Mr. Haddow

M261. Seminar in Vertebrate Morphology (1/6 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 Palentology (1/6 course).

Mr. Vaughn

263. Seminar in Population Genetics (1/4 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 (1/4 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 (1/4 course).

Mr. Nobel

266. Seminar in Plant Ecology (1/6 course).

Mr. Cody, Mr. Thompson Collias


Mr. Cody

268. Seminar in Animal Ecology (1/4 course). Discussion, three hours. Advanced study of specific topics in animal ecology and related fields.

270. Seminar in Environmental Physiology (1/4 course).

Mr. Gordon, Mr. Morin, Mr. Alpaca
eine

271. Seminar in Physiology and Mycology (1/4 course). Prerequisites: course 100 or equivalent and chemistry 152 or equivalent. Genetics, biochemistry, and advanced undergraduate or graduate course in plant physiology, at least one advanced undergraduate or graduate course in plant development or biochemistry, and Chemistry 152 or equivalent. Seminar on specific topics in plant development. Content varies each quarter.

Mr. Phinney, Ms. Tobin

272. Seminar in Comparative Cell Physiology (1/4 course).

Mr. Cascaro, Mr. James


Ms. Gonzalez

274. Seminar in Plant Physiology (1/4 course).

Mr. Laties

275. Seminar in Comparative Physiology (1/4 course).

Mr. Gordon, Mr. Narins

276. Seminar in Physiology and Biochemistry of Arthropods (1/4 course).

Mr. Engelmann

277. Seminar on Topics in Ultrastructure (1/4 course).

278. Seminar on Current Aspects of Photosynthesis (1/4 course).

Mr. Chapman, Mr. O'Lague, Mr. Thornber

279. Seminar in Neurophysiology (1/4 course).

Mr. Eckert, Mr. O'Lague

280. Seminar in Biological Applications of Flow Cytometry (1/4 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

281. Seminar in Molecular Endocrinology (1/4 course).

Ms. Szego

M282. Major Histocompatibility Complexes: Genetics, Biochemistry, and Biology (1/4 course). (Formerly numbered 283.) (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

283. Seminar on Topics in Cell Biology (1/4 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 (1/4 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. Tessler

285. Seminar in Protein Synthesis (1/4 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 (1/4 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.

287. Seminar in Comparative Cell Physiology (1/4 course).

Mr. Cascarano, Mr. James


289. Seminar in Plant Physiology (1/4 course).

Mr. Laties

290. Seminar in Comparative Physiology (1/4 course).

Mr. Gordon, Mr. Narins

291. Seminar in Physiology and Biochemistry of Arthropods (1/4 course).

Mr. Engelmann

292. Seminar on Topics in Ultrastructure (1/4 course).

293. Seminar on Current Aspects of Photosynthesis (1/4 course).

Mr. Chapman, Mr. O'Lague, Mr. Thornber

294. Seminar on Current Aspects of Photosynthesis (1/4 course).

Mr. Simpson

295. Seminar in Neurophysiology (1/4 course).

Mr. Eckert, Mr. O'Lague

296. Seminar in Biological Applications of Flow Cytometry (1/4 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 (1/4 course).

Ms. Szego

M298. Seminar in Current Topics in Molecular Biology (1/4 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 (1/4 course).

Mr. Macinnis

375. Teaching Apprentice Practicum (1/4 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. Walker

501. Cooperative Project (1/2 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 (1/2 to 3 courses).

596F. Directed Individual (or Tutorial) Studies (1/2 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 (1/2 to 3 courses). May not be applied toward the M.A. or Ph.D. course requirements.

598. M.A. Thesis Research and Writing (1/4 to 3 courses).

599. Ph.D. Dissertation Research and Writing (1/4 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. Ane, Ph.D. (Chemistry)
Daniel E. Atkinson, Ph.D. (Biochemistry)
Patrick A. Baur, Ph.D. (Physical Chemistry)
Kyle D. Bayes, Ph.D. (Chemistry)
Paul D. Boyer, Ph.D. (Biochemistry)
Orville R. 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 W. Gebhart, 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. Nicoll, 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. Watson, Ph.D. (Geochemistry and Biochemistry)
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 Reiss, Ph.D. (Biochemistry)
Charles E. Strother, Ph.D. (Chemistry)
Richard L. Weiss, Ph.D. (Biochemistry)

Assistant Professors
Steven G. Clarke, Ph.D. (Biochemistry)
William H. Hess, Ph.D. (Chemistry)
Dom Mia 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 study 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 6D/6DL (6D/6DL 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 C11; (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 biological, chemical, or organic laboratory, 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:

- Inorganic — Chemistry 174, 207, C275, C276A, C276B, 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, 275, 279; (4) two courses from physical chemistry (C213B, C215A, C215B, 215D, C223A) or organic chemistry (C232, 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 biochemistry (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 disqualified 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) and 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, exponents, 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 protonic theories 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. Harrington, Mr. Hardwick (F,W,Sp)

11A. General Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: high school chemistry or equivalent background and three and one-half years of high school mathematics. Recommended: high school physics. Required of all majors in chemistry and biochemistry. Students lacking the prerequisites may qualify for admission by exceptional performance on the Chemistry/Mathematics Preliminary Examination. All students who intend to take this course must take the Chemistry/Mathematics Preliminary Examination (enrollment is usually limited to students who have passed the examination). Atomic theory and stoichiometry; states of matter and phase equilibria; gases; liquids and solutions; acids, bases, and salts; equilibria in gases and solutions; solubility and solubility equilibria; oxidation and reduction.

Mr. A. Baux, 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. Required of all majors in chemistry and biochemistry. Students lacking the prerequisites may qualify for admission by exceptional performance on the Chemistry/Mathematics Preliminary Examination. All students who intend to take this course must take the Chemistry/Mathematics Preliminary Examination (enrollment is usually limited to students who have passed the examination). An honors course parallel to course 11A.

Mr. El-Sayed, Mr. Gelbart (F)

11B. General Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: course 11A or 11AH with a grade of C or better or consent of instructor. Thermochromy and thermodynamics; electrochemistry; chemical kinetics; quantum theory and electronic structure of atoms; periodicity of chemical properties.

Mr. Kees, 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 and course 11A, and consent of instructor. An honors course parallel to course 11B.

Mr. Kivelson (W)
25. Elementary Biochemistry. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisites: 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 biochemical macromolecules; spectrophotometry; catalysis; enzyme kinetics; gel filtration and paper chromatography; viscosity; utilization of radioisotopes. (F, W, Sp)

144. 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 spectroscopy, thermodynamic measurement, and general biophysics.

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 (F, W, Sp)

C115A-C115B. Quantum Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: course 113A, Mathematics 31A, 31B, 32A, 32B, 33A. Recommended: knowledge of differential equations equivalent to Mathematics 110 or 116; 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 placed in 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; matrix techniques; approximation methods; time dependent problems; atoms; spectroscopy; magnetic resonance; chemical bonding. May be concurrently scheduled with course 115A or 115B.

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.

C123A-C123B. Classical and Statistical Thermodynamics. Lecture, four hours; discussion, one hour. Prerequisite: course 110B or 115B. Recommended: course 113A. Rigorous presentation of the fundamentals of classical thermodynamics. Principles of statistical thermodynamics: probability, ensembles, partition functions, STATES. Theories of gases; laws of thermodynamics; free energy; entropy; chemical potential; and chemical equilibrium; thermodynamics of solutions.

Mr. Baur, Ms. Lamb (Sp)

110A. Physical Chemistry: Chemical Thermodynamics. Lecture, four hours; discussion, one hour. Prerequisites: course 11C, Physics 8B or 6C, or may be taken concurrently). Mathematics 31A, 31B, 32A, 32B, 33A for life science majors, Mathematics 3C. (An understanding of partial differentiation 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. Baur, Ms. McMillan, Mr. Nicoll (W, Sp)

110C. Physical Chemistry: Chemical Charges, Fields, and Matter. Prerequisite: course 110A. Topics include electromagnetic fields in matter — susceptibilities, molar polarization and refraction, multipole, van der Waals forces; classical EM waves — propagation, refraction, scattering, absorption, optical rotation and rotatory dispersion, magnetic effects; radiation — multipole, black-body, radiation coefficients, lasers, scattering and diffraction — Rayleigh, Mie, Raman, X-ray, electron, neutron, nuclear — by particles, molecules, lattices; resistance phenomena — light, EPR, NMR, NQR, Mössbauer; electrolytes — ion activity, conductivity, rate effects. (F, W, Sp)

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, 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 measurement, and general biophysics.

Mr. Bayes, Mr. Kelley, Mr. Scott (F, W, Sp)

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. Murdoch, Mr. Thompson (F-Sp)

133A. Intermediate Organic Chemistry (4 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, and chemical reaction. Mr. Anet, Mr. Murdock, Mr. Thompson (F, W, Sp)

133BG. Intermediate Organic Chemistry (1/2 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. Murdock, 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; common classes of compounds and reactions. Laboratory includes methods of organic reactions, synthesis, isolation, and characterization.

Mr. Anet, Mr. Murdock, Mr. Thompson (W, Sp)

133CC. Intermediate Organic Chemistry (1/2 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. Murdock, 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. Prerequisite: courses 110B, 113A, 133C (may be taken concurrently), 133B, or equivalent. Topics in organic chemistry; mechanisms of organic reactions; synthetic organic chemistry; and other topics. 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 or equivalent. Topics in organic chemistry; 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, three hours. Prerequisite: course C133C or equivalent, 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, high-pressure techniques, fundamentals of organic reaction theory, photochemistry, pericyclic reactions. May be concurrently scheduled with course C133B.

Mr. Chapman

C175. Inorganic Reactions Mechanism. Lecture, three hours. Prerequisites: courses 110A, 110B, and 113A, or equivalent. Survey of inorganic reactions; mechanisms; electronic structure of metal ions; adsorption; complex coordination chemistry; coordination complexes and pattern; substituent, isomerism, and racemization reactions; stereochemistry; oxidation/reduction, free radical, polymerization, and photochemical reactions of inorganic species. May be concurrently scheduled with course C275.

Mr. Hawthorne, Mr. Kaesz (W)

C176. Group Theory and Applications to Inorganic Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: courses 113A and 173, or equivalents. Topics in group theory; symmetry; applications to inorganic chemistry; structure of molecules and solids; crystal field and ligand field theory; spectroscopy; electronic structure of metal complexes; applications in catalysis and organic synthesis. May be concurrently scheduled with course C276A.

Mr. Hawthorne, Ms. Valentine (F)

C213B. Physical Chemistry: Molecular Spectroscopy. Lecture and discussion, one hour. Prerequisite: course 113A or equivalent. Spectroscopic applications of basic quantum chemistry, including light-matter interaction, origin of selection rules, vibration spectra, anharmonic effects, electronic spectra, Franck-Condon principle, and topics from Raman, microwave, ESR, NMR, laser spectroscopy, and radiationless transitions. An independent study project is required. May be concurrently scheduled with course C131B.

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 130A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course C215A may be taken concurrently with course C215B.

Mr. Atkinson, Mr. Clarke, Mr. Jordan (Sp)


C218. Physical Chemistry Student Seminar (1/2 course). Seminars are presented by faculty, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit.

F, W, Sp

219A-199Z. Directed Individual Study or Research for Undergraduate Students (1/2 to 2 courses). To be arranged with faculty member with whom student is doing research. Prerequisites: advanced junior standing, with a 3.0 GPA or better, 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 applications may be obtained from the undergraduate director, P/N grading.

W, Sp

Graduate Courses

207. Organic Metalorganic Chemistry. Lecture and discussion, three hours. Prerequisite: consent 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 carbyls; applications in catalysis and organic synthesis.

C213B. Physical Chemistry: Molecular Spectroscopy. Lecture and discussion, one hour. 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. An independent study project is required. May be concurrently scheduled with course C131B.

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 130A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course C215A may be taken concurrently with course C215B.

Mr. Atkinson, Mr. Clarke, Mr. Jordan (Sp)


C218. Physical Chemistry Student Seminar (1/2 course). Seminars are presented by faculty, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit.

F, W, Sp

219A-221Z. Advanced Topics in Physical Chemistry (1/4 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.
258. 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. Pogak

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.

265. 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 proteins-DNA interactions in diverse biological model systems.

M267. Macromolecular Metabolism and Subcellular Organization (½ course). (Same as Biological Chemistry M267.) Lecture or recitation, five hours. Prerequisites: courses 113A and 173, 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.

269. 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, 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 tissue 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 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. Storuse, Mr. Zink

C276B. Physical Methods for the Characterization of Inorganic Compounds. Lecture, three hours. Prerequisite: course C276A or consent of instructor. Applications of spectroscopic techniques, including IR, Raman, visible, UV, NMR, ESR, and NQR, to the elucidation of structure and bonding in inorganic and organometallic compounds.

Mr. Storuse (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. Storuse, 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 advisor of interdepartmental Molecular Biology Ph.D. committee. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

287. Teaching Apprentice Practicum. (½ 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 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 student.

599. Research 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 student.

COLLEGE OF LETTERS AND SCIENCE / Chemistry/Materials Science / 119

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)
Kanj 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, 113B or C115A-C115B, 114, 173, one or two courses from 123A, 123B, 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 Rocco, Ph.D. (Politics)
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 to concentrate 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, M159A, M159B, M172T; History 197; Sociology 124* or 155*.

2. Major Concentration: Four courses in one discipline, selected from Anthropology 115P, 135P, 135Q, 136P, 136, 140, 150, 154, 166, 167, 185; Economics 110, 120, 121, 150, 151, 152, 172; English 104, 106, 107, 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 of the major to include in the major concentration area a course not on the approved list. CED courses may be applied by petition.

3. Optional Multidisciplinary Senior Thesis: Prerequisite: senior standing. Chicano studies majors 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. 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.

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.

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 works 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.

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.

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 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.

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 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

Mr. Hernández

Mr. Rocco

Mr. Paredes

Mr. Roccio

Mr. Gonzalez

Mr. Rocco

Mr. Roccio

Mr. Roccio

Mr. Roccio

Mr. Roccio

Mr. Roccio
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 195 and nine upper division courses in the 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.


(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-118B, 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 if 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 manifestations 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 150B.) 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 151A.) The course is a survey of the prehistoric art and archaeology of the Greek lands. Knowledge of Greek is not required. Mr. Blank
151B. Classical Archaeology: Graeco-Roman Architecture. (Formerly numbered 151B.) A general introduction to the study of Ancient, Greek, and Roman architecture. Knowledge of Greek and Latin is not required. Mr. Lattimore
151C. Classical Archaeology: Graeco-Roman Sculpture. (Formerly numbered 151C.) 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 151D.) 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
210A. Byzantine Civilization. (Same as History M122A.) Emphasis is on Byzantine thought. Mr. Dyck
210B. 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, Palacig, Luwian, Hieroglyphic, Lydian, and Lydian texts, Anatolian-Greek relationships and survivals in Classical and Hellenistic times. Mr. Puhvel
240. Etrusco-Latino. 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 manuscript collection; 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. Lofstedt
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. Mr. Blank, Mr. Lattimore
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

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. Puvel

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 (1/2 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 (1/2 to 2 courses).

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (1/2 to 2 courses).

599. Research for Ph.D. Dissertation (1/2 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. Ms. Bergren, Ms. King, Mr. Puvel

101B. Homer: Iliad. Mr. Blank, Ms. Bergren, Ms. King, Mr. Puvel

102. Lyric Poets. Selections from Archilochus to Bacchylides. Ms. Bergren, Mr. Haslam

103. Aeschylos. 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. Ptolemaic: Republic. Ms. Bergren, Mr. Blank, Mr. Haslam

123. Aristotelian: Poetics and Rhetoric. Mr. Blank, Mr. Haslam

124. Aristotelian: Ethics. Mr. Blank, Mr. Dyck, Mr. Frischer


Mr. Dyck

131. Readings in Later Greek. Prerequisite: course 100. Topics vary from year to year and include "Longinus," "On the Sublime"; Marcus Aurelius; Ariadne, 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 (1/2 to 2 courses). Prerequisite: 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. History of Greek Literature. Prerequisite: consent of instructor. Lecture, 6 courses. 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 Aeschylos. Ms. Bergren, Mr. Blank, Mr. Haslam

206A-206B. Sophocles. Ms. 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. Ms. Haslam

211A-211B. Herodotus. Mr. Blank

212A-212B. Thucydides. Mr. Haslam, Ms. King, Mr. Lattimore

213. Seminar in Greek Historiography. Mr. Haslam

214. Demosthenes. Mr. Dyck


216. Menander. Prerequisite: reading knowledge of classical Greek. Mr. Frischer, Mr. Habinek

217A. Greek Lyric Poetry: Archai 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. Ms. 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


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


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. Puvel

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. Puvel

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 (1/2 to 2 courses).

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (1/2 to 2 courses).

599. Research for Ph.D. Dissertation (1/2 to 2 courses).

Latin

Lower Division Courses

1. Elementary Latin. Lecture, five hours.

10. Readings in Latin Prose. Prerequisite: course 1. Plato's Apology or a text of comparable difficulty is read.

Ms. Bergren, Mr. Habinek, Mr. Haslam

10A. Homer: Odyssey. Ms. Bergren, Ms. King, Mr. Puvel

10B. Homer: Iliad. Mr. Blank, Ms. Bergren, Ms. King, Mr. Puvel

102. Lyric Poets. Selections from Archilochus to Bacchylides. Ms. Bergren, Mr. Haslam

103. Aeschylos. 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
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.

101. Pratitus. Mr. Habinek, Mr. Lofstedt

102. Terence. Mr. Lofstedt

103. Lucretius. Mr. Blank, Mr. Dyck, Mr. Frischer

104. Ovid. Mr. Bergren

105A. Vergil: Selections from Aeneid 1-6. Mr. Blank, Mr. Kings, Mr. Levine

105B. Vergil: Advanced Course. Mr. Frischer, Mr. Kings, Mr. Levine

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. Lofstedt

112. Tacitus. Mr. Frischer, Mr. Habinek, Mr. Lofstedt

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. Lofstedt

117. Sallust. Mr. Lofstedt

118. Seneca. A selection of Seneca's works will be read in Latin. Mr. Blank, Mr. Habinek, Mr. Lofstedt

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 uncritical features of the Latin. Mr. Lofstedt

130. Introduction to Medieval Latin. Prerequisite: course 3 or 15 or consent of instructor. Reading of easy prose texts, with interest centered on basic linguistic training. Mr. Lofstedt

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. Lofstedt

132. Medieval Latin Poetry. Prerequisite: one upper division language course in Latin or consent of instructor. Mr. Lofstedt

199. Special Studies in Latin (1/2 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. History of Latin Literature. Prerequisite: consent of instructor. Lectures on the history of Latin literature, with attention to the part of the student by the independent reading of Latin texts in the original.

201. The Roman Epic Tradition. Seminar, three hours. Close study of one epic poet other than Vergil (e.g., Ennius, Lucan, Valerius Flaccus, Statius, Silvius Italicus), with attention to the literary tradition of epic. May be repeated for credit with topic change.

202. Seminar in Catullus. A detailed consideration of the entire Catullian 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.

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.

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.

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.

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 Suetonius' Claudius I), with attention to its place in the rhetorical tradition. May be repeated for topic change.

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.

223. Lucretius. Mr. Blank, Mr. Dyck, Mr. Frischer

224. Seneca. Seminar, three hours. Detailed study of one work of prose or poetry by the younger Seneca. Emphasis on literary and philosophical problems, with some attention to philosophical and historical matters as well. May be repeated with topic change.

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.

232. Vulgar Latin. Prerequisite: consent of instructor. History and characteristics of popular Latin; its development into the early forms of the Romance languages.

240. History of the Latin Language. Prerequisite: consent of instructor. The development of Latin from the earliest monuments until its emergence in the Romance languages.

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.


245. 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.

250. College Teaching of Latin (1/2 course). Prerequisites: appointment as a teaching assistant and consent of instructor. Methodology of instruction in conjunction with classroom practice.

256. Directed Individual Study or Research (1/2 to 2 courses).

257. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (1/2 to 2 courses).

259. Research for Ph.D. Dissertation (1/2 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

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
**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.

**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. Prerequisite: course 10, 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 communicative and intercultural 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. Ms. Rosenthal

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. Ms. French

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, massage, and environmental factors affecting audience response. Mr. Malamuth
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. Caldar, Ph.D. (English)
Margherita Cottino-Jones, Ph.D. (Italian)
Eric Gans, Ph.D. (French)
Hassan el Noury, Docteur és 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)
Maximilian 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. Venser, Ph.D. (English)
Pier-Maria Pasinetti, Ph.D., Emeritus (Italian and Comparative Literature)

Associate Professors
Ben Befu, Ph.D. (Oriental Languages)
Frederick L. Bunwick, Ph.D. (English)
Edward I. Condon, 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
Shuhui 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
UCAL'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 course, 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.

153. The Media and Aggression Against Women. Lecture, two hours; discussion, two hours. Prerequisites: 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

158. 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 judicial 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 (1/2 course). Formerly numbered L-150.) 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.

Mr. Gregory

187. 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 (1/2 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.

Scope and Objectives
UCAL's graduate Comparative Literature Program makes it possible to study several literatures rather than just one. Students skilled in foreign languages may select from UCAL'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.
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, epic, lyric, 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 continue 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, testing both your skill in literary analysis and detailed knowledge of specified works in the major and minor literatures. The 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 a broad historical knowledge, the other to demonstrate 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. Prerequisite: 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
C204. 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. Reading include Freud, Fairleigh, and contemporary critics, focusing on the theories of literary figures ranging from the humanists to Machen, Elizabeth Shakespeare. Other sources include Poliziano and Lorenzo de Medici. 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.

C245. Renaissance Drama. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C141. An analysis of the presence and the treatment of Renaissance literature by early Renaissance authors ranging from the Italian humanists to Machen, Elizabeth 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.

C246. The Literary Mediation of History in the Renaissance. Seminar, three hours. Prerequisite: reading knowledge of one foreign language. May be concurrently scheduled with Humanities C141. An analysis of the presence and the treatment of Renaissance literature by Renaissance authors ranging from the Italian humanists to Machen, Elizabeth 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.

C260. 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 Germanenlale, and Parlost Will be studied both in contemporary criticism 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 to meet as a group one additional hour each week.

C269. 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 the society, focusing on the works of Kafka, Rilke, Woolf, Sarthe, 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.

C300. Translation Workshop. Prerequisite: 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.

C381. 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 Middle Ages. 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.

C400. Medieval Epics. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C139. The course will consider five medieval epics: Beowulf, El Cid, Chanson de Roland, Niebelungenlied, and Mjálsaga. 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.

C410. The Literary Mediation of History in the Renaissance. Seminar, three hours. Prerequisite: reading knowledge of one foreign language. May be concurrently scheduled with Humanities C141. An analysis of the presence and the treatment of Renaissance literature by Renaissance authors ranging from the Italian humanists to Machen, Elizabeth 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.

C425. Renaissance Drama. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C141. An analysis of the presence and the treatment of Renaissance literature by Renaissance authors ranging from the Italian humanists to Machen, Elizabeth 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.

C426. The Literary Mediation of History in the Renaissance. Seminar, three hours. Prerequisite: reading knowledge of one foreign language. May be concurrently scheduled with Humanities C141. An analysis of the presence and the treatment of Renaissance literature by Renaissance authors ranging from the Italian humanists to Machen, Elizabeth 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.

C427. 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.

C428. The Symbolist Tradition in Poetry. Prerequisite: reading knowledge of either French or German. May be concurrently scheduled with Humanities C175. A study of the prominent poetic trends and figures in 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.

C429. The Mystery Novel. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C111. A study of some of the dominant poetic trends and figures in 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.

C429. The Mystery Novel. Prerequisite: reading knowledge of one foreign language. May be concurrently scheduled with Humanities C111. A study of some of the dominant poetic trends and figures in 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.

C430. Translation Workshop. Prerequisite: 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.

C431. 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 Germanenlale, and Parlost Will be studied both in contemporary criticism 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 to meet as a group one additional hour each week.

C432. 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 the society, focusing on the works of Kafka, Rilke, Woolf, Sarthe, 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.

C433. Translation Workshop. Prerequisite: 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.

C434. 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 Middle Ages. 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.

C435. Medieval Epics. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C139. The course will consider five medieval epics: Beowulf, El Cid, Chanson de Roland, Niebelungenlied, and Mjálsaga. 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.

C436. Fiction and History. Seminar, three hours. Prerequisite: upon written 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 the modern period. Texts and individual assignment details range from Renaissance historical narratives (the Italian humanists, Machiavelli) to 19th- and 20th-century novels by authors such as Stendhal, Verga, Tomasi di Lampedusa, and Brooke-Rose. Analysis 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.
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 1OC or 1OF or Computer Science 1OS. Additional recommended course lists are available in the program office and 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. 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.

In addition, you must either earn a satisfactory score on the Common 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 204 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.
You may complete more than 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.

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, 32A; Physics 8A, 8B/8BL, and 8C/8CL or 6B.


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.


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-
emetics 31A, 31B, 32A; Physics 8A, 8B/8BL and 8C/8CL or 6B.


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.


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 number of courses (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.

Field Majors and Subdisciplines

The Department of Earth and Space Sciences offers programs leading to the M.S. and Ph.D. degrees in Geochronology, in Geology, and in Geophysics and Space Physics. The program in geochronology 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 committee 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, 256, and 268, as well as selected courses in chemistry, engineering, the social sciences, law, and management.

Thesis Plan
This plan is normally required for students not continuing to the doctorate. The thesis subject may be selected at once and the research undertaken concurrently with coursework; in any event, it should normally be selected within 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 committee of examinees 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 it 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, (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)

   - Mr. Ernst, Mr. Kaula, Mr. Schopf (F)

   - Mr. Reed

5. 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)

   - Mr. Wasson (W)

7. Geology of California. Prerequisite: course 1. Geologic and physiographic features of the 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)

8. 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 production, marine ecology, and minerals forming in the ocean.
   - Mr. Wasson (W)

9. 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 geologic regions of Southern California. Emphasis is on field-based learning related to integrated aspects of natural history.
   - Mr. Hall

10. Elements of Field Geology. Prerequisite: course 1 or consent of instructor. Topics include geological and economic characteristics of mineral resources, exploration, recovery, risks, exhaustion, mineral law, mining laws, transportation, and environmental concerns. Mr. Carlisle (Sp)

11A. Elements of Field Geology. Lecture, two hours; laboratory, three hours. Field techniques: mapping, stratigraphy, sedimentology, and economic geology. Mr. Shreve (W)

Upper Division Courses

   - Mr. Davis, Mrs. Kivelson (Sp)

103A. Igneous Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisites: courses 103A, 103B, 103C. Recommended: course 111A. Study of igneous rocks based on field occurrence, mineralogical compositions, texture, and the application of physical and chemical principles.
   - Mr. Van Duzer (W)

103B. Metamorphic Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisite: course 103A. Study of rocks based on field occurrence, mineralogical compositions, relationships, and microscopic study of rocks.
   - Mr. Van Duzer (Sp)

103C. Sedimentary Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisite: course 103B. Interpretation of metamorphic rocks based on field occurrence, mineralogical compositions, relationships, and microscopic study of rocks.
   - Mr. Van Duzer (Sp)

105. Nonrenewable Resources and Society. Lecture, one hour; discussion, two hours. Prerequisite: course 103A. Techniques of geologic mapping; development of geologic concepts, the application of geologic maps; field exercises in paleo-continental and geologic mapping.
   - Mr. Shreve (W)

51A. Mineralogy-Petrology. Prerequisite: course 51A and an introductory course in high school or college. Principles of optical crystallography. Utilization of optical properties to identify nonopaque minerals in immersion media and in thin sections. Sufficient theory is presented to understand the operations performed in the laboratory.
   - Mr. Rosenfield (W)

51C. Mineralogy-Petrology. Prerequisite: course 51B. Composition, occurrence, and origin of igneous, sedimentary, and metamorphic rocks; megascopic and microscopic study of rocks.
   - Mr. Rosenfield (W)

51D. Mineralogy-Petrology. Prerequisites: course 51A and an introductory course in high school or college. Principles of optical crystallography. Utilization of optical properties to identify nonopaque minerals in immersion media and in thin sections. Sufficient theory is presented to understand the operations performed in the laboratory.
   - Mr. Rosenfield (W)
209B. Introduction to Geophysics and Space Physics II: Oceans and Atmospheres. Lecture, three hours; laboratory, 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 the 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 physics that includes the extended corona of 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)


203. Electrodynamics. Prerequisite: upper division electromagnetism course. Maxwell's equations and boundary conditions; momentum, angular momentum, and energy of electromagnetic fields; plane electromagnetic and magnetohydrodynamic waves; wave guides, simple radiating systems. Mr. Busse (F)

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). Fourier transform, continuous, discrete, FFT, time series (Z-transforms, deconvolution), maximum entropy spectral analysis, autoregressive and moving average methods (AR, MA, ARMA), and multichannel prediction and analysis (ARMA). Mr. Busse (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 — the determination of consistent and reliable model parameters from limited data, considering the effects of random errors and nonuniqueness. Linear and quasi-linear problems will be emphasized. Nonlinear problems will be discussed. Tools to be used include matrix theory, quadratic form, 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. Topics include: 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 instabilities, turbulence, and 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 frictional 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 habitats and their distribution of animals and plants 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 time-dependent flows 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 occurrences of, and ecological studies of algae, fungi, and bacteria. Mr. Newman (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 foraminifera, radiolarians, chonotonids, tintinnids, ostracods, and conodonts. (Alternates yearly with course 215.) Mrs. Loeblich (F)

217. Planetary and Orbital Dynamics. Solar system dynamical evolution in rotating systems; Ekman gravitational field of a planet; satellite orbits; earth-moon 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 undergraduate students. In-depth study of paleobiology, with emphasis on interdisciplinary problems involving aspects of biology, geology, oceanography, geochemistry, and cosmology. Course 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; seismogram theory; explosion seismology; seismicity; focal conditions; surface wave analysis; microseisms and tsunamis. Dr. Davis

M224A. Elastic Wave Propagation I. (Same as Mechanics and Structures M267A.) Prerequisite: Engineering 155A or 165 or consent of instructor. An introduction to 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 constant loads; radiation from dislocations; attenuation; representative applications in engineering and seismology. Mr. Mal (F)

M224B. Elastic Wave Propagation II. (Same as Mechanics and Structures M267B.) 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, and the effects of geophysical and geochemical processes on the composition and evolution of the earth and planets. Examination of the physics of the earth's magnetic field. 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, and tsunamis. 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, and 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 of thermal 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-rays, crystal structure theory, X-ray crystal structure analysis, crystal X-ray methods, diffraction symmetry and elementary crystal structure analysis. (Alternates yearly with course 231.) Mr. Dollase (Sp)

231. Crystal Chemistry and Structure of Minerals. Prerequisite: intermediate or totalizing configuration, polymeric transformations, isomorphism, thermal and positional disorder; survey of the structures of the common minerals, and relation of physical and chemical properties to crystal structure. 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 equation 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 diagrams. 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)
234. 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. Current Research in Petrology (1 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

237. Metamorphic Petrology. Lecture, three hours; laboratory, six hours. An advanced, very course in petrology and petrography or consent of instructor. Interpretation of metamorphic rocks in the light of observation, theory, and experiment. Geologic relations, petrographic evidence, metamorphic zonation, thermodynamics of phase equilibria, projections, tectonic relationships, use of piezobirefringent haloes, Rayleigh deformation 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)


Mr. Christie

240. Space Plasma Physics. Prerequisite: course 203 or Physics 210A. The physics of plasmas in space, including treatments based on magnetohydrodynamics, plasmaspheres, and kinetic theory. Applications to solar or planetary winds; steady-state magnetospheres; magnetospheric convection; substorms processes; magnetic merging; field-aligned currents and the magnetosphere-ionosphere coupling; ring current dynamics, and wave particle interactions.

Mr. Kivelson


Mr. Reed

243A-244B. Stress and Deformation. Lecture, three hours. Prerequisites: Physics 8A, 8B, Mathematics 12A, 12B, or consent of instructor. Recommended: Mathematical Methods. Stress tensor, vectors, tensor subnotation; rotation and inversion of axes, transformation matrix; stress; finite homogeneous strain, rotation; infinitesimal strain, strain rate; thermal strain, stress and other graphical methods; flow laws.

Mr. Oertel (F, W, every third year)

245. Stress in the Lithosphere. Prerequisite: course 202 or 244A 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 budgets; mechanical transport of ice; glacier flow; crevasses; textural and structural 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, 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 theory; solar wind and solar magnetic field; objects 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 cosmic rays. Prerequisites: course 244B.

Mr. Coleman (F)

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


Mr. Christie

254. Seminar in Sedimentology. Processes of sediment transport and deposition; deep sea sediments; deltas and estuaries; petrology of carbonates, sandstones, and limestones; stratigraphy; paleoenvironmental studies. Prerequisites: courses 244B, 244C. (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 terrains, glaciers, plutons, volcanoes, and consolidated or unconsolidated sediments. Modern concepts of the oceanic basins; processes leading to segmentation of continental-type rocks.

Mr. Oertel

256. Seminar in Glaciology and Geomorphology. Glaciology, theoretical geomorphology, river meanders, glacial mechanisms, statistical models. Prerequisites: course 244A.

Mr. Shreve

257. Seminar in Paleontology. Current biogeographic literature and research on evolution of selected groups of animals and plants, numerical taxonomy, organism-environmental relationships, evolution, and development of life, biogeography. Prerequisites: course 245A, 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. Carlson (W)

259. Seminar in Advanced Topics in Geology (1 course each). Topics vary. May be repeated for credit.

260. Seminar in Geological Physics (1 course each). Problems of current interest in geological physics, including topics related to imaging and sounding processes, mechanisms of volcano eruption, high pressure properties of materials, and thermodynamics of crystals.

Mr. McPherson

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, 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. McPherson

266. Seminar in Resource Analysis. Prerequisite: consent of instructor. Geophysical, 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.

268. 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.

274. Seminar in Mineral Physics and Rock Physics (1 course each). 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 questions of state, acoustic properties of minerals under pressure, dielectric properties of minerals, properties of the earth's mantle and core, compression of porous aggregates, fracture dynamics, lattice dynamics of low symmetry crystals, laboratory analogs of earthquakes.

Mr. Anderson

285. Origin and Evolution of the Solar System. (Same as Astronomy M285.) Dynamical problems of the solar system; changes from geophysical, meteorite, and solar system; nuclear synthesis; solar origin, evolution, and termination; solar nebula, hydrodynamic 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)


289A-289B-289C. Seminar in Fluid Dynamics (1 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 (1 course). Discussion of recent research in spectral estimation, filtering, and signal detection applied to geophysical problems. Prerequisite: course 244A.

295. Earth and Space Sciences Colloquium (1 course each). Reading and discussion in the frontiers of earth and space sciences.


299. Topics in Earth and Space Sciences (1 course each).

375. Teaching Apprentice Practicum (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.
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, 161, 2197 when in the East Asian field; (a) sociology: Sociology 104* and three courses from Sociology 113*, 126*, 134*, 151*, 154. *Courses so marked have prerequisites which are not included among the courses mentioned here.

(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*, 115T*, (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, 2197 when in the East Asian field; (e) sociology: Sociology 124* and three courses from Sociology 113*, 126*, 134*, 151*, 154.

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 C. Hirsch, Ph.D.
Jack Hirshleifer, Ph.D.
Michael D. Intriligator, Ph.D.
Darwin M. Lerner, Ph.D.
Axel Leijonhufvud, Ph.D.
John L. McCall, Ph.D.
John G. Riley, Ph.D.
Lloyd S. Shapley, Ph.D.
Harold M. Somers, Ph.D.
Earl A. Thompson, Ph.D.
Lloyd L. 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. Heggum, Ph.D., Emeritus

Associate Professors

Bryan C. Ellickson, Ph.D.
George G. S. Murphy, Ph.D.
Joseph M. Ortey, Ph.D.

Assistant Professors

Sean R. Beckett, 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; industrial organization; economic institutions; international economics; uncertainty and information.

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 advisor 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 condition 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, institutions, and issues of economic policy. Emphasis on aggregate economics, including national income, monetary and fiscal policy, and international trade.

3. Lower Division Research Seminar in Microeconomics. Prerequisite: course 1. Limited to ten freshman and sophomores. Seminar is 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.

5. 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 American economic life. Mr. Murphy

6. Introduction to Statistical Methods. Not open to students with credit for Mathematics 125A, 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. Statistics for Economometrics. Lecture, three hours. Prerequisites: two courses in calculus. Not open to students with credit for course 40, Mathematics 125A, 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 a B+ or better in course 1 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. Concept of income, employment, and the price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy. Mr. Clawar, 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 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 110.) 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 the American energy strategy, including technological, bargaining, and stability issues. Mr. Intriligator (alternate years)

M103B. 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 Western 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 and growth in less developed countries and primary exports 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, including 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. Prerequisites: 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, consent of instructor. Contrast between organization of economic activity by government and by the private sector. Analysis of alternative norms for governmental methods. Analysis of economic impacts of alternative public expenditure projects and burdens of alternative forms of taxation. 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 requirements for the major. Use of economic methods 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 action of the organization itself. Models of political behavior and effect of decision rules and agendas on political outcomes.

Mr. Haltiwanger, Mr. Plant, Mr. Robinson

133. State and Local Finance. Prerequisite: course 130. The division of functions 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 130) 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 models of choice 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 of market failure and the 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 Mathemat- ics 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 analysis; 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 147B.) Lecture, two hours. Prerequisite: course 147A. Econometric models and data; forecasting, policy analysis, estimation of simultaneous equations models, applications of econometrics. A major original research 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 activities of the labor market, determination of wage levels. 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. An 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


Mr. Daby, 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 intervention.

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: History and Tactics. Prerequisite: course 101A. Study of pricing and output decisions of firms under conditions of less than perfect competition or monopoly; theories of oligopo- ly 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


Mr. Demsetz, Mr. Hirsh

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 economic systems. 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


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, its spread beyond the continent. The rise of factories, industrial firms, and unions. Changes in the standard of living and demographic consequences. Imperial expansion and the decline and decay of empires. 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 theoretical and institutional foundations 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 trade and payments, including analysis of major issues of international commercial and monetary policy confronting national and international agencies. May not be counted toward the major requirements, but may be applied as elective credit for the degree.

Mr. Beckti

191. International Trade Theory. Prerequisite: course 190. 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 192. Not open to students with credit for course 190. Emphasis on the interpretation of the balance of payments, including national and international economic conditions 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. 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


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
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 transportation facilities; policy toward the merchant marine.

Mr. Hilton


Mr. Demsetz, Mr. Klein

278A-278B-278C. Dissertation Research Workshop in Economic Organization. Discussion, three hours. Prerequisite: consent of instructor. 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.

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, development and structure of market and social classes and conflict, guilds 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


Mr. Allen, Mr. Learner


Mr. Allen, Mr. Learner

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. Learner

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 (½ 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.

594. 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.


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/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.
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


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.

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 Sciences) 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. All courses must be completed for a letter grade of C - or better.

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 Department 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 Bent, Ph.D.
A. R. Braunnmuller, 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 Guillams, Ph.D.
Henry Angar 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, DPhil., Ph.D.
Joseph N. Riddle, 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 Sheets, Ph.D., Chair
Georg Bernhard Tennyson, Ph.D.
Peter Larsen Thorslev, Jr., Ph.D.
Alexander Welsh, Ph.D.
D. K. Wigus, 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 Longwell, Ph.D.
Blake Reynolds Navius, Ph.D.
Ada Blanche Nisbet, Ph.D.
Franklin Prescott Rolfe, Ph.D.

Associate Professors

Walter Eldon Anderson, Ph.D.
Charles Linwood Batte, Jr., Ph.D.
Frederick Lorrain Burwick, Ph.D.
Edward Ignatius Condren, Ph.D.
Ronald E. Freeman, Ph.D.
James Edward Goodwin, Ph.D.
Christopher Waido 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 Packard, Ph.D.
Jeffrey Ruben-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 Language or Foreign Literature: All English majors must have completed either (1) five 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 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.
four must be in a selected discipline (history, upper division courses in other departments, taken preferably in the senior year. Of the six chosen in consultation with the English department, while the other three must explicitly 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 180-199 sequence, preferably before the senior year. In the Fall Quarter of your senior year, you may be required to take two graduate courses in English and one seminar from the English 180-199 sequence. A score of 500 or above on one of the Educational Testing Service (ETS) examinations is considered proof of language proficiency. This requirement should be satisfied at the beginning of the first quarter of residence, but in no event no later than the mid-point of the quarter in which you complete all degree requirements. A score of 300 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-M248A, 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.

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 no event no later than the mid-point of the quarter in which you complete all degree requirements. A score of 300 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.
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 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 re-searched 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). Prerequisites: 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, dictation, punctuation, and spelling. Workshop exercises in writing and revision. P/NP grading.

1. Fundamentals of Exposition (1/2 course). Prerequisite: English A or qualifying score on Subject A Placement Test. English B 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 undergraduate work. Lectures, readings, class discussions, and assignments in writing and revision. Completion of this course with a grade of D meets the Subject A requirement. P/NP grading.

2. English Composition, Rhetoric, and Language. Prerequisite: satisfactory subject A requirement by examination or by completion of course 1 with a grade of C or better. 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).

3. Critical Reading and Writing. Prerequisites: satisfactory subject A requirement and course 3 or equivalent. An introduction to literary analysis, with close reading and carefully written exposition, selection from one or more of the principal modes of literature: poetry, prose fiction, and drama. Minimum of six papers (three to five pages).

4. English Literature to 1660. Prerequisites: satisfactory subject A requirement, courses 3, 4, and 4A. 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.

5. English Literature to 1832. Prerequisites: satisfactory subject A requirement, courses 3, 4, and 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.

6. English Literature, 1660-1832. Prerequisites: satisfactory subject A requirement, courses 3, 4, and 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.

7. English Literature, 1832 to the Present. Prerequisites: satisfactory subject A requirement, courses 3, 10A, 10B. A study of selected works of the period, including writings by Tennyson, Arnold, Browning, Yeats, Joyce, and Eliot. Minimum of three papers (three to five pages) or equivalent.

8. Introduction to Creative Writing. Prerequisites: satisfactory 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 pieces 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 pieces 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, nonfictional prose, and short fiction of such writers as Poe, Emerson, Whitman, Twain, Frost, and Hemingway.

Mr. Worthing

85. The American Novel. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 151, 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, 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 the uses of meter, rhyme, imagery, and other devices in the poetry of various periods. The course emphasizes the study of poetry as a medium of expression, and its development as an art form.

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 fiction. An examination of the techniques and forms of the genre, and an analysis of short and long narratives and of critical issues such as plot, characterization, setting, narrative voice, realism and non-realism.

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. Anderson

100M. Intensive Writing (1 credit course). Prerequisite: course 148. Students must be concurrently enrolled in a course offered in conjunction with English 100W (refer to the Schedule of Classes for courses so designated). Designed to teach analytic paper writing, with emphasis on revision. Required of all English majors. May be repeated for credit.

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

110A. Recent British Literature. Prerequisite: satisfaction of Subject A requirement. Recent trends and developments in British fiction and poetry since World War II. Mr. Cross

110B. Recent American Poetry. Prerequisite: satisfaction of Subject A requirement. Recent trends and developments in American fiction since World War II. Mr. Gullans

110C. Recent American Fiction. Prerequisite: satisfaction of Subject A requirement. Recent trends and developments in American fiction since World War II. Mr. Berst, Mr. Goodwin

110D. 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

110E. 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

110F. Jewish American Fiction. Prerequisite: satisfaction of Subject A requirement. The study of the fiction of Jewish writers in America, such as Malamud, Malamud, and Roth, focusing on the encounter of Jewish ethical ideals and social values with the contemporary environment. Mr. Novak

110G. Afro-American Literature. Prerequisite: satisfaction of Subject A requirement. An introduction to the Afro-American literary tradition from the 18th century to the present — including oral and written forms (folktale, novels, sermons, prose, poetry, drama). A study of major trends in Afro-American thought as revealed in the literature. Mr. Yarborough

110H. 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

110I. 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, dreams, visions, speeches) and the imagination is writing about Native Americans (poetry, fiction, history, anthropology, sociology). Mr. Lincoln

110J. Women in Literature. (Same as Women's Studies M107.) Prerequisite: satisfaction of Subject A requirement. A survey of the work of women writers. 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. Yezell

110K-110L. The English Bible as Literature. Prerequisite: satisfaction of Subject A requirement. A survey of the principal literary monuments of the Old and New Testaments in the King James Version. 110K deals with the Old Testament, 110L with the New Testament. Mr. Cross, Mr. Dearing, Mr. Post

110M. 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. Kineman

115A. American Popular Literature. (Formerly numbered 111.) Prerequisite: satisfaction of Subject A requirement. An examination 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


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 interdisciplinarity 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. Hinfanson

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 lexicology applied to the analysis and evaluation of writing samples from students in junior and senior high school and junior college. Mr. Allen

122. Introduction to the Structure of Present-Day English. Prerequisite: satisfaction of Subject A requirement. Designed to introduce teachers of subjects other than English to basic concepts in language acquisition, 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 of the English language from Indo-European up to the present time. Mr. Calder, Mr. Condren

130. Composition for Teachers. Prerequisites: satisfaction of Subject A requirement, courses 3, 4. Preparation for future teachers of English composition: the writing process, and 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. An advanced treatment 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 meters 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. All of these may, with the instructor's consent and the student's wish, be substantial revisions of the other stories attempted. Class 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. A sequence in dramatic writing, with particular emphasis on playwriting. An exploration of the capacity of each student to write for the theater. Class discussion of student writing, individual conferences, research on recent, 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, designed specifically to prepare students for a career. Analysis of prose and literary styles necessary to the variety of writing in professional, nonacademic fields is combined with writing practice, particularly 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 writers such as Plato, Aristotle, Horace, Sidney, Dryden, Johnson, Kant, and Hegel. Prerequisite: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of 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, historical, and deconstructionist approaches. The area of concentration will be decided 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 Duke of Malto 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. 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. A study of the major works of Milton, with emphasis on Paradise Lost.

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.

150. Later Medieval 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 development and interrelationships of poetry, prose, fiction, and literary theory and criticism during the reign of Elizabeth I.

Mr. Kipling, Mr. Weinr

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 beginnings 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. Guillaus, Mr. Post

154. Literature of the Restoration and Earlier 18th Century (1660-1730). Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the major works as literary documents and as background of the Restoration and earlier 18th-century thought.

Mr. Rontissone, Mr. Roussee

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 authors such as Waudby, 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. Thorstein
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 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 works 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. An intensive study of some aspect of the relationship between literature and social, economic, or political history. May be repeated for credit.

Mr. Yarborough (Sp)

190. Literature and Society. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major English novels since 1912, including fiction, from the beginning of the 19th century to the end of the Civil War.

Ms. Packer, Mr. Rubin-Dorsky, Mr. Wortham

197. Specialized Studies in 18th-Century American Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of American literature from the end of the Civil War to the founding of the Poetry magazine.

Mr. Rubin-Dorsky, Mr. Wortham

199. Specialized Studies in English (½ to 1 course). Prerequisite: consent of instructor. An intensive directed research project. To enroll or obtain information, see department counselor.

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 works in Western literary theory from Plato to the present.

Mr. Lehman, 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

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 Old English aloud and read 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 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.) Study of the structure of the English language and of selected linguistic features of oral and written texts that go beyond the sentence level and thus signal cohesion. Structures are determined by their function in a variety of English texts representing several discourse types.

Ms. Celce-Murcia


Mr. Ford


Mr. Ford

218. Celtic Linguistics. Prerequisite: consent of instructor. A survey of the linguistic and lexicographical development 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. Dearing, Mr. Sheats, 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. Sheets

225. Readings in Victorian Literature. Mr. Freeman, Mr. Tennyson, Mr. Welsh
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.

220. 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 not 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.

230. African Myth and Mythology. (Same as Folklore 235.) Prerequisite: consent of instructor. 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 and 20th century) and specific authors, or the contributions of specific groups of linguists to literary analysis.

243A. The Ballad. (Same as Folklore 243A.) Prerequisite: consent of instructor. Study of the English and Scottish popular ballads and their American derivatives, with some attention to European analogues.

243B. Problems in Ballad Scholarship. (Same as Folklore 243B.) Prerequisite: course 243A or consent of instructor. Intensive investigation of a problem or problems in the study of the popular ballad.

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.

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.

247. Shakespeare. Mr. Allen, Mr. Dent, Mr. Kinsman

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.

249. Milton. Mr. Guffy, Mr. Guliens, 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.

251. The Romantic Writers. Mr. Burwick, Mr. Sheets, 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.

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.

255. Contemporary American Literature. Studies in contemporary American poetry and prose; limits of investigation to be set by the individual instructor.

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.

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.

258. Studies in the Novel. Studies in various themes of literature, the arts, and the sciences; limits of investigation to be set by the individual instructor.

259. Studies in Criticism. Mr. Hutter, Mr. Riddel

260. Studies in Literature and its Relationship to the Arts and Sciences. Studies in the interrelations of literature, the arts, and the sciences; limits of investigation to be set by the individual instructor.

260A. Studies in English and Comparative Literature. (Formerly numbered 260.) Prerequisite: consent of instructor. Intensive research and investigation to be set by the individual instructor.

261. Literature in English. (Formerly numbered 261.) Mr. Povey

262. Current Issues in the Teaching of English. Mr. Hutter, Mr. Riddel

263. Studies in the Teaching of English. Mr. Foy, Mr. Roper, Mr. Rousseau

264. English for Two-Year College. Prerequisite: course 120B or 275. The course will involve both discussion and practice of two-year college instruction in reading and composition. In Progress grading.

267A-270B. English for the Two-Year College. Prerequisite: course 120B or 275. The course will involve both discussion and practice of two-year college instruction in reading and composition. In Progress grading.

271. Studies in African Literature in English. (Formerly numbered 271.) (Same as English as a Second Language M265K.) Prerequisite: consent of instructor. Special problems and trends of African literature in English. Mr. Povey

272. Current Issues in the Teaching of English. Mr. Povey


274. The Teaching of English for Minority Groups. (Formerly numbered 274.) (Same as English as a Second Language M224K.) Prerequisite: 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.

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.

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 (1/2 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-495SB. Supervised Teacher Preparation (1/2 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 classes. 495B must be taken concurrently with the first teaching assignment. It examines the Specialized problems which occur in teaching English as a second language, and introduces students to techniques for teaching English 1 and ESL. In Progress and S/U grading.

496. Directed Individual Study in Pedagogy (1/2 to 1 course). Limited to teaching assistants working under the direction 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 (1/2 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.

505. Directed Individual Study for M.A. Candidates. An independent study course for M.A. candidates and 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.

506. Directed Individual Study for Ph.D. Students preparing for the first qualifying examination. May be repeated and may not be applied toward any course requirement for the degree. S/U grading.

507. Preparation for Ph.D. Examination. Ph.D. candidates are restricted to one course (four units) before the second qualifying examination. S/U grading.

509. 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. (Exemption to this rule must be requested by petition.) S/U grading.

English Composition

UCLA Writing Programs:
375 Kinsey Hall, 206-6815

Freshman Writing Program:
391 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 Baner, Ph.D.
Charles Berezin, Ph.D.
Jennifer Bradley, Ph.D.
Irena Bregin, Ph.D.
Patricia Chittenden, M.A.
Ruth Clements, M.A.
Gary Colombo, C. Phil.
Robert Cullen, Ph.D.
Pamela Doherty, 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.
Cheryl Giuliano, M.A.
Sandy Feinstein, M.A.
Diane Durkin, Ph.D.
Patricia Donahue, Ph.D.
John Johnston
Jeff Jeske, Ph.D.
George Gadda, C. Phil.
Mary Georges, M.A.
Lisa Gerrard, Ph.D.
Pamela Glick-Maje, Ph.D.
Cheryl Giuliano, M.A.
Donna Gregory, Ph.D.
Eugenia Gunther, C. Phil.
Michael Gustin, M.A.
Virginia Hornak, M.A.
Patricia Hunt, Ph.D.
Jeff Jeske, Ph.D.
John Johnston.
Cynthia Tuell, M.A.
John Mascaro, M.A.
Mary Morgan, Ph.D.
Faye Peitzman, Ph.D.
Patricia Gilmore。
Ellen Quandahl, Ph.D.
Susan Popkin, M.A.
Faye Peitzman, Ph.D.
Bonnie Lisle, Ph.D.
Sonia Masak, M.A.
Donna Brinton, M.A.,
Adjunct
Patricia Chittenden, M.A.
Kathryn Lindberg, 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-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 Cece-Mucia, Ph.D.
Earl J. Rand, Ph.D.
John H. Schumann, Ph.D.

Assistant Professors
Frances B. Hinojoflo, 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 interdisciplinary 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 598K 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 and vocabulary, and listening comprehension.

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, 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. 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.

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 Statistical Analysis 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. 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.

Material 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.

222K. Language Testing for Teachers of English as a Second Language. (Formerly numbered 224K.) Prerequisite: course 370K. The course introduces procedures, selecting appropriate evaluation design and methodology, and pedagogical application for using media equipment and materials in the language classroom.

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 teaching, learning, and testing language skills.

225K. Program Evaluation in Applied Linguistics. Evaluation of the effectiveness of ESL curriculum and instruction, including the assessment of teacher behavior. Prevalent evaluation theories, the writing of evaluation proposals, developing program monitoring procedures, and evaluation data presentation formats, framing the decision context, and reporting evaluation results.
495KA-495KB. Training and Supervision of Teaching Assistants (1/4 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.

596K. 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.

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. Arao, Ph.D. (Spanish and Portuguese)
Kees W. Bolle, Ph.D. (History)
Margherita Cattino-Jones, Ph.D. (Italian)
Elise Durinh, M.A. (Dance)
Patrick K. Ford, Ph.D. (English)
Robert A. Georges, Ph.D. (English), Chair
Maria Gimbutas, Ph.D. (Slavic Languages and Literatures)
Melvin B. Heistien, 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)
Douglas Price-Williams, Ph.D. (Anthropology)
Jaan Puvehel, Ph.D. (Classics)
Stanley L. Robe, Ph.D. (Spanish and Portuguese)
Allega Snyder, M.A. (Dance)
Robert M. Stevenson, Ph.D. (Music)
Donald J. Ward, Ph.D. (Germanic Languages)
Johannes Wilbert, Ph.D. (Anthropology)
Wayland D. Hard, Ph.D., Emeritus (Germanic Languages)
Charles Speroni, Ph.D. (Eminentus Italian (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. Craper, Ph.D. (Music)
Joseph Nagy, Ph.D. (English)
Beverly J. Robinson, M.A. (Theater Arts)

Associate Professor
Manianna 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 substitutions 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**

A cultural-historical survey of the role of folklore in the development of American civilization and of the influence of the American experience on 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.) Prerequisite: satisfaction of Subject A requirement, junior standing. A survey of Anglo-American ballad and folk song, with attention to historical development, ethnic background, and poetic and musical values. May be concurrently scheduled with course C206. Mr. Wiggins.

**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 M111C.) 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.
112. British Folklore and Mythology. (Same as English M111.) Prerequisite: satisfaction of Subject A requirement, junior standing. A survey of the folklore of the peoples of Britain, with attention to their history, function, and regional differences. Ms. Porter, Mr. Nagy.

113. 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.

123A. 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 material manifestations of Lappish culture: arts and crafts, textiles, costume, folk technology. Ms. Rank.

123B. 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.


125. 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.

126. 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.

127. Celtic Folklore. (Same as English M111F.) Prerequisite: course 101 or consent of instructor. The folklore traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research. Mr. Nagy.

128. 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.

129. Folklore and Mythology of the Ugric Peoples. (Same as Hungarian M136.) Survey of the traditions of the smaller Ugric nationalities (Voguls, Mans, Udoms, etc.) Mr. Nagy.

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.

140. From Boccaccio to Basile (In English). Italian language and literature. A study of the origins and the development of the Italian novels in their 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 be introduced either to the novels 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 the case of Basile has been 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.

142. Introduction to Jewish Folklore. (Same as Jewish Studies M142.) The nature of Jewish folklore: narrative, folk song, folk art, folk religion, and the methods and perspectives used in their analysis. Mr. Georges.

149. Folk Literature of the Hispanic World. (Same as Spanish M149.) Lecture, three hours. A survey of the history and present dissemination of the principal forms of folk literature throughout the Hispanic countries. Ms. Arora, Mr. Robe.

150. Russian Folk Literature. (Same as Russian M150.) Lecture, three hours. Lectures and readings in Russian folk literature, including tales, legends, and Russian song. Ms. DjaDjie.


163. Folklore and Oral History. Prerequisite: junior standing. An examination of the relationships between folk tradition and oral tradition; how history may be derived from tradition: how traditions are embedded in historical sources; how the folk traditionize history to reflect their point of view. Ms. Rank.

170. 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. Mr. Nagy.

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. Ms. Rank.

180. Analytical Approaches to Folk Music. (Same as Music M180.) Prerequisite: Music 5A-SB-5C or consent of instructor. An intensive study of the methods and techniques necessary to the understanding of Western folk music. Mr. Porter.

181. 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. Prerequisite: course 15 or 101 and consent of instructor. A seminar focusing upon selected problems, data, or themes in folklore and mythology studies. Mr. Porter.

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. Jairazbhoy.

201B. Folklore Collecting and Field Research. Prerequisite: course 201A. The supervised completion of a fieldwork project developed in course 201A. Mr. Jairazbhoy.

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 collections, followed by one quarter of directed experience in archiving. Mr. Georges.

225. 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 on the theoretical and methodological constructs which have contributed to the body of Black cultural expression in the United States. Mr. Robinson.

231. Folk Belief and Custom. Prerequisites: course 101, English M111G, Mr. Jairazbhoy, Mr. Nagy, Mr. Porter, Mr. Rank, Mr. Miller, Mr. Wilgus.

240C. A study of beliefs and customs in the folk communities of the United States, with an emphasis on the processes by which folklore is created, how folklore is transmitted and modified, and how folklore is maintained by immigrant groups and subsequent generations. Mr. Georges, Mr. Rank, Mr. Ward.

241. The Popular Legend. Prerequisite: course 200 or consent of instructor. A survey of the categories of legend and their relation to myth, custom, ritual, popular beliefs, and ballads. Mr. Georges, Mr. Ward.

246. The Folktale. Prerequisite: course 200 or consent of instructor. Mr. Georges, Mr. Ward.

250. 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.

251. 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. Zarba.

257. 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.

270. Seminar: Topics in Celtic Folklore and Mythology. Lecture, three hours. Prerequisite: course 200 plus coursework in Celtic studies. The seminar prepares students for the advanced study of research in important areas of Irish oral tradition and folklore/mythology scholarship. Possible topics include: pagan Celtic Ireland; comparison of Celtic mythology; Celtic origin legends; literary and oral saints' legends; the Irish Fenian (Ossianic) tradition of ballads (laoidhe/duain) and prose tales; "fairy belief" and archiving methods of the Irish Folklore Commission; folklore studies and nationalism. Mr. Ford, Mr. Nagy.


272. The Study of Popular Belief and Custom. Mr. Wilgus.

280. Afro-American Folksong and Culture. Prerequisite: graduate standing. An examination of the theoretical and methodological constructions which have contributed to the body of Black cultural expression in the United States. Mr. Robinson.

285. Russian Folk Literature. (Same as Russian M250.) Lecture, three hours. Prerequisite: consent of instructor. The study of Russian folk literature. Mr. Georges.

286. Russian Folk Song. Prerequisite: upper division standing. Mr. Georges.

287. Russian Folk Literature. (Same as Russian M250.) Lecture, three hours. Prerequisite: consent of instructor. The study of Russian folk literature. Mr. Georges.

290. Russian Folk Literature. (Same as Russian M250.) Lecture, three hours. Prerequisite: consent of instructor. The study of Russian folk literature. Mr. Georges.

291. Russian Folk Song. Prerequisite: upper division standing. Mr. Georges.

292. Russian Folk Literature. (Same as Russian M250.) Lecture, three hours. Prerequisite: consent of instructor. The study of Russian folk literature. Mr. Georges.

293. Russian Folksong. Prerequisite: consent of instructor. The study of Russian folksong. Mr. Georges.

294. Russian Folk Literature. (Same as Russian M250.) Lecture, three hours. Prerequisite: consent of instructor. The study of Russian folk literature. Mr. Georges.

295. Russian Folksong. Prerequisite: upper division standing. Mr. Georges.

296. Russian Folk Literature. (Same as Russian M250.) Lecture, three hours. Prerequisite: consent of instructor. The study of Russian folk literature. Mr. Georges.

297. Russian Folksong. Prerequisite: upper division standing. Mr. Georges.

298. Russian Folk Literature. (Same as Russian M250.) Lecture, three hours. Prerequisite: consent of instructor. The study of Russian folk literature. Mr. Georges.

299. Russian Folksong. Prerequisite: upper division standing. Mr. Georges.
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).


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

135R. Aesthetic Anthropology

156. Comparative Religion

166A. Greek Religion

166B. Roman Religion

168. Introduction to Comparative Mythology

170B. Comparative 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 depart-
ments 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. Soren 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
121C. Special Topics in Yiddish Literature in English Translation

French

160 Haines Hall, 825-1145

Professors
Marc Benismon, 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
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
121C. Special Topics in Yiddish Literature in English Translation

Associate Professors
Patrick Coleman, Ph.D.
Stephen D. Werner, Ph.D.

Assistant Professors
Mary-Ann Burke, Ph.D.
Jean-Claude Carron, Ph.D.
Shuhai 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, 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.

**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 elective upper division 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).

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 19B 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.

**Honor 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 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.

**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 (at least six 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

---

**In all major plans one course from the 121 series and/or one undergraduate seminar (French 150-190, 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.
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 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 take a failed examination once.

After passing the written examinations, you will be admitted to the University Oral Qualifying 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

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 (% course). 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 (1 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. Prerequisite: 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. 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-116B. 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. Molière and the Comedy of the 17th Century.
117D. Philosophers, Moralsists, 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-Helvetic and Franco-Belgian Literature.
121D. Franco-Caribbean Literature.

122. French Folklore and Young People's Literature.


124. Dramatic Interpretation. Study of the techniques of stage direction and interpretation of French drama. A survey of some of the different theories and approaches used on the French stage. Each student will act in or direct a scene from a play to be performed under rehearsal conditions. Ms. Korol-Ward

125. Contemporary France. Lecture, three hours. A fourth hour may be required for the viewing of films and other laboratory activities. Ms. Brichant

126. 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

127. 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

128. Cinema and Literature in Contemporary France. Lecture, three hours. Additional hours may be required for the viewing of films and other laboratory activities.

140A. 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

140B. Honors Seminar in French. Seminar on different aspects of a selected literary genre, such as drama, poetry, the novel, etc.

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.


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.

152. Studies in 17th Century Literature.
156. Studies in Contemporary Literature of French Expression.


158. The Woman in French Literature. The course will explore a selected aspect of the role 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 (1/2 to 2 courses). Prerequisites: junior or senior standing, consent of instructor, and consultation with undergraduate advisor. 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 Literary Composition. Lecture, three hours. Practical work of an advanced nature in the expression and presentation of literary research.

202. Explication de Textes. Mr. Besnimon

203A-203B-203C. French Literary Criticism:

203A. Topics in Literary Criticism from Aristotle to Saint-Simon.

203B. Modern Theories of Criticism.

203C. The Techniques of Literary Criticism. Mr. Coleman, Ms. Kao


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:
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 non-academic 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 — 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 semi-

nars. 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, 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, 160A, 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 II, including 162 or 168.

Electives: Six courses chosen from Atmospheric Sciences 104A (or Engineering 105A), 104B (or Engineering 105D), 104C, 105, 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 198; 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 occupation 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 understanding 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 major agents of biological change in the earth's ecosystem.

6. Maps and Mapping. Lecture, three hours; laboratory, two hours. Introduction to maps and their role in social science research. Focus on thematic and thematic maps. Emphasis on use with 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.

7. Seminar in Graduate Geography. Staff-student discussion, three hours; reading period, one hour. Prerequisites: 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

(a) Basic Environmental Studies

100. Principles of Geomorphology. Lecture, three hours; discussion, one hour. Prerequisite: course 1 or Earth and Space Sciences 100 or consent of instructor. Strongly recommended: introductory physics and chemistry. A study of the processes that shape the earth's landscape, including erosion, deposition, mass movement, and fluvial processes.

101. Coastal Geomorphology. Lecture, three hours; discussion, one hour. Prerequisite: course 100. A study of the origin and development of coastal landforms, including sea cliffs, beaches, estuaries, lagoons, deltas, wetlands, dunes, seashells, and coral reefs, together with coastal zone management.

103. Glacial Geomorphology. Lecture, three hours; reading period, one hour. Prerequisites: courses 100 and upper division standing. An introduction to both mountain and continental glaciers, including geochronology, geology, and deposits. Topics include the classification of glaciers, mass balance, glacier motion, erosion processes, glacial/fluvioglacial and lacustrine deposition.

104. Climatology. Lecture, three hours; reading period, one hour. The study of the earth's climates and the factors that determine them. Emphasis on the role of energy and material transfers in shaping the earth's climate system.

105. Hydrology. Lecture, three hours; reading period, one hour. Prerequisite: course 1 or equivalent. The study of the hydrologic cycle and its role in shaping the earth's landscape.

106. Soils. Lecture, three hours; reading period, one hour. Prerequisite: 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.

(b) Applied Environmental Studies

118. 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.

119. Agricultural and Pastoral Ecosystems. Lecture, three hours; reading period, one hour. Prerequisite: courses 1, 2, Biology 2, or equivalent, or consent of instructor. An introduction to the historical and current role of agriculture, including the role of humans in shaping the earth's ecosystems.

120. Conservation of Resources: South America. 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.

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 basic principles and problems associated with the conservation of natural resources in Latin America and the United States and Canada.
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 and resource use, and further natural resource impacts on 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 biology (i.e., Mathematics 50A or Economics 40). Theory and practice of the management and conservation of bio-resources. 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. 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 statements.

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 their role in affecting human activity. There will be a detailed examination 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 social 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: four courses from Group I. Highly recommended: Mathematics 135A. Limited enrollment. Qualitative-quantitative analysis of problems associated with rational protection and use of selected environmental systems (urban, rural, forest, desert, coastal, water, soil, or others).

Group II: Human Geography

130. Geographical Discovery and Exploration. Lecture, three hours; reading period, one hour. Prerequisites: courses 3, 5, 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 identification, 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. Prerequisite: upper division standing or consent of instructor. 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 changes throughout the nation.

Mr. Kostanick

142. Population Geography. Lecture, three hours; reading period, one hour. A study of the social and behavioral influences on population patterns and their implications for the study of human behavior, with special emphasis on spatial relationships and selected case studies.

Mr. Kostanick

143. Economic and Urban 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 and their implications for urban and international affairs will be considered.

Mr. Kostanick

144. Human Spatial Behavior. Lecture, three hours; reading period, two hours. 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 and their implications for urban and international affairs will be considered. The 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 spaces: economy, family, 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 identification, and environments of the future through lectures, readings, and field study.

Mr. Salter

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. An analysis of the development, functions, spatial patterns, and geographic problems of American cities.

Mr. Clark, Mr. Entrikin, Mr. Nelson

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 megalopolisization.

Mr. Clark, Mr. Entrikin

158. 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 on 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. Satur-day fieldwork, 8-5. Prerequisites: courses 1, 2, or equivalent and consent of instructor. Students enrolling 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 physiographic phenomena in 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 3, 4, or equivalent. An introduction to the basic concepts and theoretical approaches concerning the observation, analysis, and mapping of landscape phenomena of human origin. Techniques of data collection will be examined for such topics as set, form, 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: courses 1, 3, 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 conceptual approaches 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 conceptual approaches 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. Prerequisite: course 1, 2, 3, or equivalent, or upper division standing. The analysis of maps, with the aid of the deductive, physical, cultural, and economic aspects of the region portrayed, including such elements as geomorphic history, hydrology, settlement history, forms of economic livelihood, transportation problems, and toponomy.

Mr. Logan

167. Cartography (1½ courses). Lecture, two hours; laboratory, six hours; independent work, one hour. Prerequisites: courses 1, 3, or equivalent, or consent of instructor. Survey of the field of cartography. Includes theory and construction of map projections, compartment procedures, principles of generalization, symbolization, formal representation, lettering, drafting and scribbling, and map reproduction methods.
168. Computer Cartography. Lecture, two hours; laboratory, two hours; independent study, two hours. Prerequisites: course 167, Engineering 110F or Computer Science 106, 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, or equivalent, or upper division standing. A study of methods for gathering and analyzing geographic information from spaceborne platforms and satellites. 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 measuring and interpreting geographic distributions and associations. Mr. Scoggins

172. Dating Techniques in Environmental Science and Archaeology. (Same as Anthropology M162G.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of scientific dating techniques such as radiocarbon dating, radioactive decay, radiometric 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 South 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 Portugal and Brazil 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. An in-depth study of geographic conditions and their relation to economic, social, and political problems in Europe. Mr. Kostanick

184. Soviet Union. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. An in-depth 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 history of South and Southeast Asia in their physical, biotic, and cultural environment and its dynamic transformation. Mr. Kostanick

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 goes from large regional patterns to regional themes that are tied 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 social and cultural 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 and cultural role. Mr. McKnight

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

195. 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. Hours to be arranged. Prerequisites: senior standing and consent of instructor.

199A-199B. 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. 199A is an independent study course taught by a team of two faculty members who assist the student with bibliographic research and field research. 199B is a topic of mutual interest to the student and the faculty members. Successful completion of 199A entails the preparation of a detailed bibliography and outline (to be evaluated by the two faculty members) and the writing of a substantial paper during course 199B. If that work is determined to be of A quality, the student is allowed to continue in the honors program. If that work is graded B or below, credit is awarded, but the student is not permitted to continue in the honors program. 199B is devoted to the writing of the substantial paper researched and outlined in 199A. 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 and major subfields of the discipline, each subfield being examined by a faculty expert. SU/grading.

201. History of Geography. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 202 or equivalent and consent of instructor. An extended study of selected geographic topics, with emphasis on current research frontiers and techniques. May be repeated for credit.

204A-204B-204C. Advanced Climatology. Lecture, three hours; discussion, one hour; reading period, one hour. Prerequisites: courses 204A, 204B, or 204C and consent of instructor. An intensive review of selected topics 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, or 204C and consent of instructor. An in-depth study of selected topics of special concern to physical geographers, ecologists, and architects. Mr. Terjung

212. Advanced Biogeography: Animals. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 212 or equivalent and consent of instructor. An intensive review and analysis of selected topics of special concern to physical geographers, ecologists, and architects. Mr. McKnight

223. Seminar: Earth and Space Sciences. Discussion, three hours; reading period, two hours. Prerequisites: courses 202 or equivalent and consent of instructor. An in-depth study of selected topics of special concern to physical geographers, ecologists, and architects. Mr. Terjung

224. Seminar: Quaternary Studies. Discussion, three hours; reading period, two hours. Prerequisites: courses 204A, 204B, or 204C and consent of instructor. An in-depth study of selected topics of special concern to physical geographers, ecologists, and architects. Mr. Terjung

231. Seminar: Biogeography. Discussion, three hours; reading period, two hours. Prerequisites: courses 212 or equivalent and consent of instructor. Research projects related to or growing out of course 212 or 212A. May be repeated for credit.

233. Seminar: Humid Tropics. Discussion, three hours; reading period, two hours. Prerequisite: course 212 or equivalent and 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

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: courses 203 or equivalent and consent of instructor. Selected geomorphic topics, with emphasis on current research frontiers and techniques. May be repeated for credit.

204A-204B-204C. Advanced Climatology. Lecture, three hours; discussion, one hour; reading period, one hour. Prerequisites: courses 204A, 204B, or 204C and consent of instructor. An intensive review of selected topics 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, or 204C and consent of instructor. An in-depth study of selected topics of special concern to physical geographers, ecologists, and architects. Mr. Terjung

212. Advanced Biogeography: Animals. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 212 or equivalent and consent of instructor. An intensive review and analysis of selected topics of special concern to physical geographers, ecologists, and architects. Mr. McKnight

223. Seminar: Earth and Space Sciences. Discussion, three hours; reading period, two hours. Prerequisites: courses 202 or equivalent and consent of instructor. An in-depth study of selected topics of special concern to physical geographers, ecologists, and architects. Mr. McKnight

231. Seminar: Biogeography. Discussion, three hours; reading period, two hours. Prerequisites: courses 212 or equivalent and consent of instructor. Research projects related to or growing out of course 212 or 212A. May be repeated for credit.

233. Seminar: Humid Tropics. Discussion, three hours; reading period, two hours. Prerequisite: course 212 or equivalent and 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
Group II: Human Geography

223. 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

224. Seminar: Cultural Geography. Discussion, three hours; reading period, two hours. Prerequisite: 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.

225. Seminar: Political 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

226. Seminar: Historical Geography. Discussion, three hours; reading period, two hours. Prerequisite: course 236 and consent of instructor. Theory and practice of historical geography in North America and Europe. May be repeated for credit. Mr. Dunbar

227. 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

228. Seminar: Political Geography. Discussion, three hours; reading period, two hours. Prerequisite: course 240 or equivalent or consent of instructor. Related research projects growing out of course 240. May be repeated for credit. Mr. Kostanick

229. 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.

230. 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.

231. 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.

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. 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. Entin

234. Migration and Residential Mobility. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: consent of instructor. The geographic analysis and modeling of national, regional, and intraburban 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 techniques. Special emphasis is placed on terrain representation, quantitative analysis, and computer mapping, scribing, color separation, and reproduction of maps. Mr. Thrower

268. Remote Sensing of Environment. Laboratory, three hours; independent work, two hours. Prerequisite: course 127 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 interactions of individual features in their physical and cultural complex. Mr. Thrower

270. 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 applied to geographic data bases and geographical problems. Mr. McKnight

272. Spatial Statistics. (Same as Architecture and Urban Planning M215B.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisite: 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: Modeling Building for Spatial Analysis. Discussion, three hours. Prerequisite: course M270 or consent of instructor. Discussion of the philosophical and methodological issues 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

278. 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.

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. Westman

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. Mr. McKnight

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 146, or equivalent, and consent of instructor. An investigation of the physical and cultural complexes of the world's arid regions. Salient factors include the climate, landscapes, water, soils, natural vegetation, and the various aspects of human occupation, including future possibilities for human utilization.

292. Advanced Regional Geography: Selected Readings. 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.

293. 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. Entin

Special Studies

375. Teaching Apprenticeship Practice (1/4 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. SGU grading.

495. Teaching of College Geography (1/4 course). Discussion, one hour; laboratory, three hours. Prerequisite: consent of instructor. Classroom practice in teaching, with individual and group instruction on related subject matter, materials, and evaluation. May be repeated for credit. Mr. McKnight
596. Directed Individual Study or Research (% 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 (% 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 (% 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 (% 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. Bauml, Ph.D. (German)
Wolfgang Nehring, Ph.D. (German)
Eli Sobel, Ph.D. (German)
Hans Wagner, Ph.D. (German)
Donald J. Ward, Ph.D. (German and Folklore)
Terence H. Wilbur, Ph.D. (Germanic Linguistics and Philology)
Gustave Otto Art, Ph.D., LL.D., Emeritus
Carl William Hagge, Ph.D., Emeritus
Wayland D. Hard, Ph.D., Emeritus
William J. Mollot, Ph.D., Emeritus
Victor A. Oswald, Jr., Ph.D., Emeritus
Erk Wahlgren, Ph.D., Emeritus

Associate Professors
Janet R. Hadda, Ph.D. (Yiddish)
Robert S. Kirchner, 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 Knorr, Ph.D. (German)
Steven D. Martinson, Ph.D. (German)

Lecturer
Margot Michel, 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-
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. This 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 satisfaction of these requirements.

Plan B requires a minimum of nine upper division and graduate courses, of which at least six courses must be graduate level (200 or 500 series). One seminar must be included.

Course 596 may be taken twice; course 597 may be taken once before the M.A. degree; course 598 may be taken three times. However, only one 500-series course may be applied toward the M.A. course requirements.

Thesis Plan
If you choose this plan, a thesis committee will be established no later than the end of 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 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

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

3. Elementary German. Lecture, five hours; laboratory, one hour. Prerequisite: course 1 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. Bäuml, 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. Bähr, Mr. Martinson

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. Ms. Komar, Mr. Wagener

101C. Introduction to German Narrative Prose. Analysis of significant examples of narrative prose (e.g., short story, novel, and fairy tale, etc.), including a systematic introduction to narrative forms, techniques, styles. Texts will be selected from modern literature as well as from other periods. Course should be taken at the beginning of literary studies. Ms. Komar, Mr. Nehring

102. 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 Beethoven), and philosophy (Leibniz, Kant), as well as their place in the history of ideas. Mr. Bähr, Mr. Martinson

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 Beethoven), and philosophy (Leibniz, Kant), as well as their place in the history of ideas. Mr. Bähr, Mr. Martinson

104. Introduction to Modern Literature. Analysis of selected works of the period from 1890 to 1945. Mr. Nehring, Mr. Wagener

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 Conversation. 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.) Reading and analysis of works of German literature from the medieval period to the 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. Bähr, 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 Lyric. (Formerly numbered 121F.) Readings, lectures, and discussions in English on selected 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 modern works of the Jewish authors, including Mendelsohn, Heine, Schnitzler, Kraus, Kafka, Feuchtwanger, Anne Frank, Nelly Sachs. May not be applied toward completion of the major in German. Ms. Ms. Haddad

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 chapsbook 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. Bähr, Mr. Martinson

Courses Open for Credit to Majors, Nonmajors, and Graduate Students in German

121A. Special Problems in Literature. (Formerly numbered 121A.) 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 121B) 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 analysis of representative works (except Faust) from Goethe’s early period to his maturity and old age. Mr. Bähr, Mr. Martinson

124. Romanticism. Prerequisites: courses 100A or 100B, 105, or consent of instructor. Reading and analysis of major works from the Romantic period. Authors include Tieck, Novalis, E.T.A. Hoffmann, and Eichendorff. Ms. Komar, Mr. Nehring
128. 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

126. Advanced Composition, Grammar, and Conversation. Prerequisites: courses 109A, 109B, or consent of instructor. Mr. Christy, Mr. Michels

125. German Phonetics. Study of the articulatory base of the sounds of German and practice in standard pronunciation. Mr. Christy

124. Methodology of Literary Criticism. Prerequisites: 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, symbol, metaphor, allegory, symbol, structural elements (act, stanza, book, flashback, anticipation, interior monologue), narrator and reader response, humor and irony, hermeneutics. Mr. Bäuml, Mr. Martinson

123. 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

122. German Folklore. A survey of the various genres of German folklore. Mr. Fahl

121. 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

120. Senior Thesis Course. Extensive reading, research, and writing of senior thesis. May be used for writing honors thesis.

119A-119CZ. Special Studies (1/2 or 1 course). Prerequisites: consent of instructor. To be arranged with faculty member who will direct the course (subject to be identified by a two-letter code used initially 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, Manicat 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 conducted with the assistance 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 historical 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 Kurenberg and ending with Johannes von Haidlaub, 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, Kriitun, and the Dietrich epic. 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 baroque; development of modern baroque scholarship; influence of foreign models; analysis of some 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, Anacreonic poets, Gesner, Klopstock, Mendelssohn, and Wieland. Mr. Bahr, Mr. Martinson

206B. Sturm und Drang. Study of representative authors of the Sturm und Drang period, such as Herder, Forster, Genzmer, Schlegel, Klinger, Wagner, R. and F. H. von Kortzfuss, Schlegel, and of the works of 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, Pan- dora, 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 Ammut und Würde, Über des Erhaben, Wanderleist, Manis 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, Bonaven- tura, E.T.A. Hoffmann, Eichendorf, and others. Course may be genre or topic oriented. Ms. Komar, Mr. Nehring

209A. 19th-Century Lyric. The development of German lyric poetry from the classical 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 Vörmarz, Dresde-Holshoff, Keller, Storm, C.F. Meyer, Nietzsche, George, and others. Ms. Komar, Mr. Nehring

209B. 19th-Century Drama. Readings 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, Voltaire and Beethoven. 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, Gogol, Heine, Nietzsche, and others. Ms. Komar, Mr. Nehring

210A. Naturalism and Symbolism. Sociological background and theoretical writings concerning naturalism and symbolism. Analysis of selected works, drama, 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 1953. Literary magazines, theoretical writings, poetry of expressionism and Dadaism, expressionist dramas, and shorter narratives. Definition and representative works of neorealism. Mr. Bahr, 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, Hasse, Kafka, Heinrich Mann, Thomas Mann, Kästner, and others. Ms. Komar, Mr. Ward

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 Lyric 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 Dürenmatt, 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 the development of the standard Germanic language from the time of Indo-European unity through proto-Germanic, West Germanic, the medieval period, the Reformation, the baroque period, the Enlightenment, and the final codification at the end of the 19th century. Mr. Christy, Mr. Milbur

230. Survey of German 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. Milbur

231. Gothic. A systematic study of the phonology and grammar of the Gothic language, with readings in Wulff's edition of the 9th Century Gothic Bible and an introduction to the history of the Goths and their place in the development of modern Europe. Mr. Christy, Mr. Milbur

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. Milbur

233. Old Saxon. An introduction to the early dialects of English in Old English, with an emphasis on the Old English Genitive and the study of the Old Saxon Genesis. Mr. Christy, Mr. Milbur

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, Nau- mann, 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. historiographic methods of analysis of narratives, texts, and contexts.

Mr. Ward

245B. Germanic Antiquities. Survey of the prehistoric and early history of Germanic civilization from the Bronze Age to the end of the migrations on the basis of archaeological, historic, and philological evidence. 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., Dialetkologie, generative phonology, generative syntax, Valenztheorie). 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 seminar in Medieval literature 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 author, theorist, or theme. Seminar in the applied methods of historical research to the modern age of German literature. 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 theoretical writings, Goethe’s Wanderjahre and West-Ostlicher Divan, Goethe’s Faust II and Hegel’s Phänomenologie des Geistes, the French Revolution and German classicism. Textual analysis and review of current research.

Mr. Bahr

258. Seminar in Romanticism. Discussion of a specific author or topic from the Romantic period, possibly in close connection with course 208. Critical review of secondary works.

Ms. Komar, Mr. Nehring


Ms. Komar, Mr. Nehring


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. Stepman

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 methodology.

Mr. Ward

263. Seminar in Theories of Literature. Specialization in literary theories, such as Rezeptionsästhetik, Neo-Manitist Criticism, New Criticism, psychology or sociology of literature, structuralism, semiotics, 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 Apprentices Practicum (1/2 to 1 course each). Study of programs 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 grading.

495A-495B. Preparation for College Teaching of German (1/2 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.

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. Kirser

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. Kirser

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


Ms. Birnbaum

101E. Advanced Hungarian. Prerequisites: courses 101A-101D or equivalent. Conversation, reading, and discussion of literary texts.

Ms. Birnbaum

102. Intermediate Hungarian. Prerequisites: courses 101A-101D 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
Graduate Courses

221. Advanced Old Norse Prose. Prerequisite: course 152 or equivalent. Readings of major saga texts. Examination of 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

223. 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

Scandinavian

332 Royce Hall, 825-2432

Professors
Roo R. 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 are geographically similar to the literature and culture that produced this literature. Mr. Byock

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, folktales, and epic, including the Niebelungenlied, the Volsunga saga, the Eddas, and Beowulf. Cultural and historical 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 140.) 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

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 Prose in English Translation. Prerequisite: upper division standing or consent of instructor. Readings in 20th-century Yiddish prose and drama. Ms. Hadda

121B. 20th-Century Yiddish Prose and Drama in English Translation. Prerequisite: upper division standing or consent of instructor. Readings in 20th-century Yiddish prose and drama. Ms. Hadda

121C. Special Topics in Yiddish Literature in English Translation. Varying topics of importance and relevance to Yiddish literary study. Reading and analysis of a wide range of 19th- and 20th-century literature. Ms. Hadda

131A. Modern Yiddish Poetry. Prerequisite: course 104 or consent of instructor. Readings in modern Yiddish poetry. Ms. Hadda

131B. Modern Yiddish Prose and Drama. Prerequisite: course 104 or consent of instructor. Readings in modern Yiddish prose and drama. Ms. Hadda

131C. Special Topics in Yiddish Literature. Prerequisite: course 131A or 131B. Varying topics of importance and relevance to Yiddish literary study. Reading and analysis of a wide range of 19th- and 20th-century literature. Ms. Hadda

199. Special Studies in Yiddish (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

Bachelor of Arts in Scandinavian Languages

Preparation for the Major

Required: Scandinavian Languages 1, 2, 3, 4, 5, and 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
7. Elementary Norwegian. Prerequisite: course 11 or equivalent. Ms. Norseng
8. Elementary Norwegian. Prerequisite: course 12 or equivalent. Ms. Norseng
9. Intermediate Norwegian. Prerequisite: course 13 or equivalent. Ms. Norseng
10. Intermediate Norwegian. Prerequisite: course 14 or equivalent. Ms. Norseng
11. Elementary Danish. Mr. Massengale
12. Elementary Danish. Prerequisite: course 21 or equivalent. Mr. Massengale
13. Elementary Danish. Prerequisite: course 22 or equivalent. Mr. Massengale
14. Intermediate Danish. Prerequisite: course 23 or equivalent. Mr. Massengale
15. Intermediate Danish. Prerequisite: course 24 or equivalent. Mr. Massengale
16. Intermediate Danish, Norwegian, and Swedish. Prerequisite: course 5 or 15 or 25 or equivalent. Readings in Danish, Norwegian, and Swedish. Written and oral exercises. P/NP, S/U, or letter grading.

Upper Division Courses

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.) A survey of Finnish ballad 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. Mr. Massengale
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
144. Henrik Ibsen. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected plays by Henrik Ibsen. May be concurrently scheduled with course C144. Ms. Norseng
145. August Strindberg. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected plays by August Strindberg. May be concurrently scheduled with course C145. Mr. Massengale, Mr. Shideler
146. Soren Kierkegaard. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works by Soren Kierkegaard. May be concurrently scheduled with course C146. Ms. Norseng
147. 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 C147. 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 graduate adviser) with topic change. May be concurrently scheduled with course C263.

Ms. Massengale, Ms. Norseng, Mr. Shideler

C181. 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 C186.

Ms. Norseng, Mr. Shideler

180. 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

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 C186.

Ms. Norseng, Mr. Shideler

375. Teaching Apprentice Practicum (½ to 1 course). Prerequisite: apprentice personnel employed 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 included toward the minimum graduate course required. 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.

C265. 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 C186.

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.
Giofio 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 Claesen, Ph.D.
Stanley Cohen, Ph.D.
Robert Dallek, Ph.D.
Christopher Ehret, Ph.D.
Derek Fraser, Ph.D.
Aino Funksenstel, Ph.D.
John S. Gaibrath, Ph.D.
Frank O. Gasell, Ph.D.
Juan Gomez-Quijones, 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 Kedeler, Ph.D.
Barbara Krekel, Ph.D.
John H.M. Laslett, D.Phil.
James Lockhart, Ph.D.
Peter Loewenberg, Ph.D.
Andrew Lossky, Ph.D.
Afar Masoot, D.Phil.
Lauro R. Martinez, Ph.D.
Ronald J. Meilier, Ph.D.
Eric H. Monkover, Ph.D.

Gary B. Nash, Ph.D.
Boniface I. Obiche, D.Phil.
Merrick Posansky, Ph.D.
Peter H. Reitl, Ph.D.
Hans J. Rogger, Ph.D.
Richard H. Rouss, Ph.D.
Damodar R. SarDesai, Ph.D.
Alexander P. Saxton, Ph.D.
Stanford J. Shaw, Ph.D.
Kalynyn Klah Sitar, Ph.D.
Geoffrey W. Symcox, Ph.D.
Speros Vryonis, Jr., Ph.D.
Eugene Webber, 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 Anastas, Ph.D.
Eugene N. Anderson, Ph.D.
Trusessell 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. Lindner, Ph.D.
Lynn White Jr., Ph.D.
Robert A. Wilson, Ph.D.

Assistant Professors

Robert P. Brenner, Ph.D.
David M. Farguhar, Ph.D.
Robert G. Frank, Ph.D.
Philip C. Huang, Ph.D.
Temma E. Kaplan, Ph.D.
Michael G. Morony, Ph.D.
Fred G. Nottehill, Ph.D.
M. Norton Wise, Ph.D.
Mary A. Yeager, Ph.D.

Assistant Professor

S. Scott Bartha, Ph.D., Adjunct

Assistant Professor

Debora L. Silverman, M.A., Acting
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 for students interested in graduate school in fields outside of history. 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, 10 upper division) 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 petition to 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 upper division courses to fulfill upper division requirements. See the departmental counselor.

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 submitted before 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 may 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 a 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 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, thermostadynamics, electromagentic 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 Muller 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 Americas, Near East, etc., and the problem of the encounter of various religions in the 19th and 20th centuries. Mr. Boile

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. Monkonen

7A-7B. Survey of the Political History of the U.S. This sequence (for 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 cultural and political history. 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

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

9A. Latin America: Conflict and Change. Another three-hour discussion, two hours. This course in 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 Indian 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 political institutions. Mr. Notehefer

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 majors 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. Mr. Palma

M70. Survey of Medieval Greek Culture. (Same as Classics M70.) Classical roots and medieval manifestations 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. The course 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
105A-105B-105C. Survey of the Middle East from 500 to the Present. (Formerly numbered 105A-105B and 105A-105B.) 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:
105A. 500 to 1300. Mr. Morony
105B. 1300 to 1700. Ms. Marot
105C. 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
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. Marot
108A-108B. History of North Africa from the Moslem Conquest:
108A. To 1578. Mr. Morony
108B. From 1578 to the Present. Ms. Marot
110A-110B. Iranian History. (Formerly numbered 110A-110B.) Political, social, and cultural history of Persia:
110A. Islamic Iran to 1600. Mr. Banani
110B. Iran from 1600 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 1086. Turkish origins, early Central Asian and Middle Eastern states. The rise and fall of the Ottoman Empire. Mr. Shaw
111B. 1086 to the Present. Modernization of the Ottoman Empire, 1808-1923. The Turkish Republic. The Turks in the world. Mr. Shaw
112A-112B. Armenian History. Lecture, three hours:
112A. Armenia in Ancient and Medieval Times, 2nd Millennium B.C. to A.D. 11th Century. Mr. Movassian
112B. Armenia from the Cilician Kingdom through the Periods of Foreign Domination and National Struggles, 11th to 19th Centuries. Mr. Movassian
112C. Armenia in Modern and Contemporary Times, 19th and 20th Centuries. The Armenian question and genocide, national republic, Soviet Armenia, and the dispersion. Mr. Movassian
112D. Introduction to Armenian Oral History. Theories 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. Movassian
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 responses to Russian and Soviet rule; the nationality question and the Soviet national republics. Mr. Movassian
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
118A-118B. History of Ancient Greece:
118A. The Rise of the Greek City-State. Emphasis is on the archaic period and the early classical age through the Persian Wars. Mr. Chambers
118B. 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 aspects of Roman law. It includes 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 papal 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 — 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 Peoples: 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
122A-122B. Byzantine Civilization:
122A. (Same as Classics M170A.) Emphasis is on Byzantine theology. Mr. Dyck
122B. (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-125F:)
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 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 Bourbon 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
126A-126E. Cultural and Intellectual History of Modern Europe. Climates of thought 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
127A-127B. Literature 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-128F. History of Modern France. (Formerly numbered 128A-128F:)
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 France, principally in the 17th century, with special emphasis on the role of Richelieu and of Louis XIV. Mr. Lossky
128D. History of Modern Germany and Austria: The 13th Century. MoveMr. Weber
129A-129C. History of Modern Germany and Austria: 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
129B. The Making of a Modern France, 1781 to the Present. From oligarchy to democratic bureaucracy in two wars and three republics. Mr. Weber
129C. A Time of Revolutions, 1770-1871. Social and political history of three kingdoms, three republics, and two empires. Mr. Weber
129D. The 16th Century: Power and Culture in the Italian City-States. Mr. Martines
129E. The Renaissance: Power and Culture in the Italian City-States. Mr. Martines
132B. 1648 to 1848. Survey of social, economic, cultural, and political history, including the rise of absolutism and mercantilism, 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 Wilhelminian eras in Germany and the Ausgleich in Austria, liberalism, imperialism, 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. Kievian Russia and its culture, Appanage principalities and towns; the Mongol invasion; the unification of the Russian state by Muscovy, Autocracy and its Servitude; see preconditions for social change. Mr. Lebsky

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. Roger

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 ascendency of Stalin, collectivization and industrialization; foreign policy and World War II; death of Stalin and de-Stalinization. Mr. Roger

131D. Intellectual History. Social thought and movements in modern Russia, late 18th to early 20th century. Mr. Roger

132A-132B. History of Italy:

132A. 1300 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, 1479-1799. The course will deal with the development of popular history in the Iberian Peninsula. Emphasis will be given to peasants and urban history, political and social history. Mr. Figure

133B. Rebellion and Revolution in Modern Spain and Portugal, 1789 to the Present. Spain's position in Europe and its relationship to the Iberian Peninsula will be discussed through investigations of urban history, agrarian social structure, and social history of women, problems of slow industrial development, imperialism, anarchism, and labor history. Ms. Kaplan

134. Southeastern Europe, 500-1500. A political, economic, and cultural survey of the independent Balkan states in the Middle Ages. Mr. Krekic

134B. Southeastern Europe, 1500-1918. The Balkans under Ottoman rule, movements of national liberation, and the formation of nation states. Mr. Krekic

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; comparison of 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

136. History of Australasia. The history of Australia and New Zealand with emphasis on the interrelationships between the settlers and the aborigines; comparisons and contrasts between the Australian and New Zealand experience. Mr. Galbraith

144. History of Latin America, 500-1500. The principal ideas about humanity and God, nature and society, which have been at work in Latin American history. Mr. Appleby

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 will be devoted to their relationship to religion in other parts of American culture. Mr. Howe.
151A-151B. Constitutional History of the United States:
Mr. Gatell
151B. Constitutionalism since the Civil War. Particular stress 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-imposed limits.
Mr. Dallek

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 reflected its users and observers, and to which it has reflected their values and ways of living.
Mr. Hines

155A-155B. American and European Working Class Movements. Focuses on 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.
Ms. Laslett
155A. American Social History, 1750-1860. 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. Covering the period from 1860 to 1890.
Mr. Laslett

156C-156D-156E. Social History of African-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.
Mr. Coben
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 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 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 developments and institutions in the period from 1800 to the present.
Mr. Gatell

159A. 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. Gujarat, 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 the general evolution of society in both 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
159B. History of the Chicoano 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 forces affecting the community. Within a framework of domination and resistance, discussion deals with social structure, economy, labor, culture, political organization, conflict, and international relations. Developments are related to the general evolution of society in both 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

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. An evaluation of the implications of immigration policy on U.S. foreign policy will be stressed.
Mr. Laslett

Mr. Hundley

162. The American West. A study of the West as frontier, as West of center, from the earliest emigration 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 American. 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 context in which the Indians, 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 both 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 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 Elitelores. Prerequisite: course 167A or 167B or 171. Study focuses on elitelores (defined as oral or noninstitutionalized knowledge involving local elites, and popular views on topics covering oral history). Emphasizes 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" and "contemporary democracy.
Mr. Wilkie

172. 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
Graduate Courses

Admission to all graduate courses is subject to the instructor’s consent and to appropriate language qualifications. For multilingual 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


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 Comparative 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.

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.
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 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. Buer

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 Studies. Required for African Archaeology, historiographical traditions, research methodologies and preferably an African history course. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

501. Cooperative Program (1/4 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 (1/4 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 the consent of the graduate studies committee. S/U or letter grading.

597. Directed Studies for Graduate Examinations (1/4 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 (1/4 to 2 courses). Prerequisite: advancement to doctoral candidacy.

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 include works and authors such as Homer, Virgil, Petronius, St. Augustine, and other texts such as Gilgamesh and Tristan and Isolde.

1B. World Literature: 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, Molieres, or Racine.

1C. World Literature: Age of Enlightenment to the 20th Century. Lecture, two 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, Didierot, Rousseau, Goethe, Flaubert, Ibsen, Strindberg, Dostoevsky, Kafka, Joyce, Woolf, and Stevens.

2A. Survey of Literature: Antiquity to Early Middle Ages. Lecture, two hours; discussion, one hour. Prerequisite: satisfaction of Subject A requirement. Students with credit for course 3A will not receive credit for this course. A study of selected texts from antiquity to the Middle Ages, with an emphasis on literary analysis and expository writing. Texts may include works and authors such as Homer, Shakespeare, Dante, Cervantes, Boccaccio, Plutarch, and the Iliad.

2B. Survey of Literature: Middle Ages to the 17th Century. Lecture, two hours; discussion, two hours. Prerequisite: satisfaction of Subject A requirement. Students with credit for course 3B will not receive credit for this course. A study of selected texts from the Middle Ages to the 17th century, with an 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, Molieres, 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 3C will not receive credit for this course. A study of selected texts from the Age of Enlightenment to the 20th century, with an emphasis on literary analysis and expository writing. Texts may include works by authors such as Voltaire, Diderot, Rousseau, Goethe, Flaubert, Ibsen, Strindberg, Dostoevsky, Kafka, Joyce, and Wallace Stevens.

Upper Division Courses

101. The Literary Dilemma. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 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.

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)
110. Satire. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. The nature of satire is 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. The changing nature of satire as illustrated by examples of the genre from Horace and Juvenal to Ionesco and Nabokov.

105. 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

107. The Classical Tradition: Epic. Seminar, three hours. Prerequisites: upper division standing, literature major, consent of instructor. The Iliad, the Odyssey, the Aeneid, the Germanic literature, 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

108. The Crisis of Consciousness in Modern Literature. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C204. Study of Boccaccio, Cervantes, Landolfi, and humanist literature in comparison with English and American works which are concerned both in subject matter and artistic methods with the growing self-consciousness of human beings and their society. Emphasis will be on works of Kafka, Beckett, 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

111. The Classical Tradition: Tragedy. Seminar, three hours. Prerequisite: upper division standing or consent of instructor. Analysis of selected Greek dramas and their receptions 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, and Proust. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, 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. Ms. Hutter

119. 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

120. 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 Njálsaga. There will be two objectives: first, a critical understanding of medieval epic 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. Ms. O'Brien

121. 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 introduction to the use of history in the literature of the Renaissance, of the treatment of history in such renaissance authors as Dante and Boccaccio, and of the presence and the treatment of history in the modern era. Ms. Re

124. 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, and Shakespeare. Undergraduates read all works in translation. Mr. Braunmuller

125. 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

126. 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 perversion. Undergraduates read all works in translation. Mr. Burwick

127. 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, Landoff, and Calvino. Undergraduates read all works in translation. Ms. Re

128. The 19th-Century Novel. Seminar, three hours. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C274. A study of the 19th-century novel in England and on the continent. Films 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

129. 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 20th-century novels by authors such as Stendhal, Verga, Turgenev, 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. Ms. Pasinetti, Ms. Re

130. Darwinism and Literature. Seminar, three hours. Prerequisites: upper division standing or consent of instructor. The course studies the impact of Darwinian theories on 19th-century 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

131. 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 French, English, and German poetry. Undergraduates read all works in translation. Mr. Shideler

132. 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, Valéry, Breton, 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

Raiho A. Antilla, Ph.D. (Linguistics)
Henrik Binbaum, Ph.D. (Slavic)
Patrick K. Ford, Ph.D. (English, Celtic Studies)
Marja Gimbutas, Ph.D. (Slavic, European Archaeology)
Evelin T. Holmstedt, Ph.D. (Classics)
Jaan Puhvel, Ph.D. (Classics, Indo-European Studies)
Harmut E. F. Scharfe, Ph.D. (Indic Studies)
Hannah A. Khoshbin, 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; OSAT 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 CSM, 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.

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 re-examination. 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 may have 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 around 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. Antilla
199. Special Studies (1/2 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. Antilla
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. Antilla
596. Directed Individual Studies (1/2 to 2 courses).
597. Preparation for Ph.D. Qualifying Examination (1/2 to 2 courses).
599. Research for Ph.D. Dissertation (1/2 to 2 courses).

Related Courses in Other Departments
Ancient Near East (Near Eastern Languages)
Anthropology
Archaeology 259. Fieldwork in Archaeology
Armenian (Near Eastern Languages)
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.


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 Wildman, 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 acceptable.

The selection must be limited to two of these disciplines. The omission of history may be acceptable. The omission of history may be acceptable.

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 deficiencies by taking the appropriate courses without credit toward the degree. No special application form is required, but applications must be accompanied by three letters of recommendation.

The Graduate Record Examination 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
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 Chesseman, 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 in Italian

The program of studies leading to the Bachelor of Arts degree 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 above-mentioned 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 exam 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.
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 1st, 2nd, and 3rd year courses.

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, open to graduate students. The course prepares students for the Graduate Division foreign language requirement, and works will be presented in oral or written examination which will cover principally the field
   Mrs. Cheeseman in charge
   2A. Elementary Italian — Accelerated (Continued) (2 courses). Lecture, five hours; laboratory, two hours. Prerequisite: course 1A or 1B 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
   2B. Elementary Italian — Continued. Lecture, five hours; laboratory, one hour. Prerequisite: course 1 or one year 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-8C. Italian Conversation (1/2 course each). Prerequisite: consent of instructor. Intended for students who have 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

46A-46B. 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, Vaso Tatrinalo, 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.


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 under 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.
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 boom ing under Lorenzo il Magnifico.

Mrs. Cottino-Jones, Mr. Cecchetti

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-reformist culture, especially of Northern and Southern Italy. Finally, it will encompass the main Enlightenment figures and the cultural evolution stemming from them.

Mrs. Betti, Mr. Chiappelli

200C. Readings in Italian Literature. Lecture, three hours. Prerequisites: course 200B, graduate standing. The course will cover the literature of the Roman period and proceed through a study of the literary figures of the Italian “Risorgimento.” Finally, it will encompass the various “novacisti” movements, the literature between the two wars, and the contemporary generation.

Mrs. Betti, Mr. Chiappelli

201A. 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 dissertation. The course will cover the literature of the Renaissance age and proceed through a study of the literary figures of the Italian “Risorgimento.” Finally, it will encompass the various “novacisti” movements, the literature between the two wars, and the contemporary generation.

Mrs. Betti, Mr. Chiappelli

212B. Functional and Critical Studies in the History of Italian Language. Lecture, three hours. Mr. Tuttle


215A. Fiction and Other Prose Texts. Mr. Chiappelli

215B. Writings of the Humanists. Mr. Chiappelli

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. Aniosto.

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, Magiatti. Mrs. Cottino-Jones

217B. Commedia dell’arte and the Theatre. Mrs. Cottino-Jones

217C. Marino and Marinismi. Mrs. Cottino-Jones

218A-218E. Italian Literature of the 18th Century. Lecture, three hours.

218A. The Prose from Vico to Cesaretti. Mr. Betti

218B. Essayists and Autobiographical Writers. Mr. Betti

218C. The Theater. Especially Metastasio, Goldoni, C. Gozzi. Mr. Pasinetti

218D. Parini and the Poets of Arcadia. Mr. Pasinetti

218E. Affieri. Mr. Betti

219A-219F. Italian Literature of the 19th Century. Lecture, three hours.

219A. Foscolo. Mr. Chiappelli

219B. Leopardi. Mr. Cecchetti

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. Cheeseman

220B. Contemporary Italian Poetry. Mr. Cecchetti

220C. Contemporary Italian Fiction. Mr. Pasinetti

223A0A-M230B. Folk Traditions in Italian Literature. (Same as Folklore M230A-M230B.) Lecture, two hours.

250A-250D. Seminar on Dante. Seminar, three hours.

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, the development of the novel, and the effects of its study of 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

255A-255B. Seminar on the Baroque. Seminar, three hours.

256A-256B. Seminar on the 18th Century. Seminar, three hours.

256A-257B. Seminar on Romanticism. Seminar, three hours.

258A-258B. Seminar on Contemporary Italian Literature. Seminar, three hours. Mr. Cecchetti


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). Questions 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. A historical survey of the development of the language from medieval times to the unification of the country (1861). Questions della lingua, general acceptance of Florentine speech, and its evolution into the national language. Mr. Tuttle

259C. Italian Dialectology. The historical differentiation of the Italian dialects will be considered in its area and sociolinguistic aspects. Specific geographic 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. Miss. cheeseman.

375. Teaching Apprentice Practicum (1/4 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 (1/4 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 (1 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.


599. Ph.D. Research and Writing (1 to 2 courses). May be repeated. S/U grading.

Kinesiology

212 Men's Gym, 825-3891

Professors
R. James Barnard, Ph.D.
Camille Brown, Ed.D.
Bryant J. Crafty, Ed.D.
V. Reggge Edgerton, Ph.D.
Glen H. Eggstrom, 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. Hand, 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. Vallas, Ph.D.

Lecturer
Jeff H. Rahmann, 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; one introductory statistics course; Psychology 10; and an additional introductory course from one of the following departments: Anthropology, Psychology, or Sociology.

Preamajor 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 195A-195B 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.

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:


101A. Reporting. Fundamentals of the news communication process.

101B. Photojournalism. Basic graphic arts illustration and photojournalism for the mass media.

102A. Article Writing. Analysis of magazine and newspaper depth reportage. Writing nonfiction articles; research, style, and structure.

182. The Media of Mass Communication. 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 (1/4 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.
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.

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 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, biometrics, 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) to 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 scheduled (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 skeletal, muscular, nervous, circulatory, respiratory, digestive, and genitourinary systems. Laboratory includes examination of human cadaver specimens. Mr. Rahimann (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 dissected human cadaver specimens. Mr. Rahimann (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 114 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. Laboratory in 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 (½ 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 (½ 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 (½ 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 (½ 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, conflict, and decision-making. Mr. Scanlan

191192. 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, three hours. Prerequisites: courses 120, 124, 124L, 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,5p)

196A-196B. Laboratory Practicum in Kinesiology (½ course each). Laboratory, four hours. Prerequisites or corequisites: courses 139 for 196A and 119 for 196B. Consent of instructor. Supervisor training and practice 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. 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 developmental 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 six units of 199H and 199HH may be applied toward the B.S. degree requirements.

Graduate Courses


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. Understanding the interrelationships of skeletal muscle contraction and metabolic demands under various exercise and training conditions, including neural and endocrine mechanisms potentially involved in mediating specific training ef fects 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 fluorescent, radioisotopic and microsphere 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-activating units including in length regulation 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 biomechanics, bioenergetics, and empirical data. Mr. Gregor

240. Neural Systems for Motor Control. Prerequisites: course 140 and Psychology 115 (or equivalent). Proprioception, the skeletomotor and neuromuscular systems and their control by spinal reflexes and supraspinal mechanisms, 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

M242. Brainstem Control of Rhythmic Movement. (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 sucking, chewing, swallowing, sleep, respiration, and locomotion. Emphasis is on the interaction among brainstem reflexes, pattern generators, and "voluntary" control centers. Mr. Gorman (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 both the behavioral and physiological 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 error correction, characteristics 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, interpersonal intervening variables, and the interaction between these external and internal factors on motor behavior. Ms. Scanlan

255. 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

256. Dimensions of Movement Behavior. Prerequisites: courses 120, 120L, Education 216A, 216B, 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, 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 participation 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 sciences. 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. Zarnick

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, 255. 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 (1/2 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 teaching apprenticeship under the active guidance.

441. Practical Application of the Laws and Principles of Kinesiology (1/2 to 1 course). Prerequisite: consent of UCLA graduate adviser and chair must be submitted prior to the second week of classes. May not be applied toward degree objectives. S/U grading.

501. Cooperative Program (1/2 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.

506. Individual Studies for Graduate Students (1/2 to 4 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.

507. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examination (1/2 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.

508. Research for and Preparation of M.S. Thesis (1/2 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.

509. Research for and/or Preparation of Ph.D. Dissertation (1/2 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.

William O. Bright, Ph.D. (Linguistics and Anthropology)
Eric Bradford Burns, Ph.D. (History)
Landel S. Burns, Ph.D. (Architecture and Urban Planning)
Robert N. Burr, Ph.D. (History)
Bertman Russell, 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)
Elsa Dunin, M.A. (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)
Alice Johnson, Ph.D. (Anthropology)
John K. 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
Olga Lunt, Ph.D. (Biology)
Gerardo Luizunaga, 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. Noble, 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. (Geography)
Carol Scottorn, 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. Thower, Ph.D. (Geography)
Hartmut Walter, Ph.D. (Geography)
Louis Joloy 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)

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. Frenich, 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. Hesperaide, Ph.D. (Biology)
Marvin Kanno, M.D., in Residence (Psychiatry)
Cecelia F. Klein, Ph.D. (Art)
David M. Kunze, 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 Quirollo, Ph.D. (Portuguese and Romance Linguistics)
Dwight W. Read, Ph.D. (Anthropology)
Richard M. Reev, Ph.D. (Spanish)
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)
Teshoma 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 Prentor, B.A. (Theater Arts)
Kathleen Rockhill, Ph.D. (Education)
Michael Storper, Ph.D. (Architecture and Urban Planning)
Concepcion Valadez, Ph.D. (Education)
Carlos O. Velazquez, Ph.D., (Anthropology)

Lecturers
José M. Cruz-Salvadores, M.A. (Spanish)
Ludwig Lauerhaus, 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 with 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.

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 Breislow, M.D., M.P.H. (Public Health)
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.

(4) **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**

<table>
<thead>
<tr>
<th>(1) Literature and Folklore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Folklore and Mythology M149. Folk Literature of the Hispanic World</td>
</tr>
<tr>
<td>History 169. Latin American Elitist Lore</td>
</tr>
<tr>
<td>Portuguese (Spanish and Portuguese) 121A, 121B. Survey of Brazilian Literature</td>
</tr>
<tr>
<td>C127. Colonial Brazilian Literature</td>
</tr>
<tr>
<td>C129. Romanticism in Brazil</td>
</tr>
<tr>
<td>C135. Naturalism, Realism, and Parnassianism in Brazil</td>
</tr>
<tr>
<td>C137. Contemporary Brazilian Literature</td>
</tr>
<tr>
<td>Spanish (Spanish and Portuguese) 121A-121B. Survey of Spanish American Literature</td>
</tr>
<tr>
<td>137. The Literature of Colonial Spanish America</td>
</tr>
<tr>
<td>139. 19th-Century Spanish American Literature</td>
</tr>
<tr>
<td>141. Mexican Literature</td>
</tr>
<tr>
<td>142A. Spanish American Literature in the 20th Century: Poetry and Drama</td>
</tr>
<tr>
<td>142B. Spanish American Literature in the 20th Century: Fiction and the Essay</td>
</tr>
<tr>
<td>M149. Folk Literature of the Hispanic World</td>
</tr>
<tr>
<td>170B. Senior Seminar: Topics in Spanish American Literature</td>
</tr>
</tbody>
</table>

**Theory and Methods**

| (2) 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 |

| (3) 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 |

**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-
theory and methods. 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
113P. Cultures of Middle America
113Q. Latin American Communities
113R. Ethnography of South American Indians
113T. 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
115P. 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
*M138. Methods and Techniques of Ethnography
*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
*119. 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
*M199. 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 Elitistore
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
146. 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 105.

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
122B 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 *181. Nutrition and Health
Sociology *126. Social Demography

Master of Arts Degree

Admission
In addition to University minimum requirements, the B.A. degree in Latin American Studies constitutes the normal basis for admission. Applicants with a degree in another 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 encouraged 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. These 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
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 advisor 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.

506. 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.

507. 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.

508. Research 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. Elementary Quechua.
Portuguese *1. Elementary Portuguese
2. Elementary Spanish
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 *M300. Bibliography
237. Chronicles 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
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

*206. 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

*M272. 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

*M232Q. 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

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)
Mazizi R. Kunene, M.A. (African Languages and Literature)
Pamela L. Munro, Ph.D.
Russell G. Schuh, Ph.D. (Linguistics and African Languages)

*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.
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 advisor'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


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, 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
COMELLE OF LETTERS AND SCIENCE / Linguistics / 207

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 seminars (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 250 series may be applied as electives for the M.A. if taken for four units.

The following undergraduate courses or electives 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 completed their previous 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, three hours. Prerequisite or corerequisite: 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 and 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; representation of 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. Anttila

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 of 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 such kinds of meaning concepts: relations between nouns and verbs (case and word order), negation, comparison, existence/location/possesion, 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 between 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.) Lectures, 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. Needelmen

141A. Survey of Some of the Central Issues in Language Development. 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 substructural models of universal grammar. Emphasized is the application of theories to the problems faced by students who plan to do graduate work in linguistics. Mr. Bedell

Mr. Anderson, Mr. Hayes
C155B. Linguistic Theory: Grammar. Prerequisite: course C200B. The form of grammar; 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. Do Buoi

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, the theory of automata, with elementary applications to linguistics. Topics vary each quarter. Concurrently scheduled with course C202. Mr. Keenan

185. 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.

189. Special Studies in Linguistics (1/2 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; the view of phonological universals. 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 120C. Concurrently scheduled with course C165B. The form of grammar; 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. Field Methods I (1 1/2 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.

201B. Field Methods II (1 1/2 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.

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, Aborigine 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: courses 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.

235. 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, etc. The course will relate to the theoretical issues of these disorders to each other. Such questions as the relationship of cognition to linguistic ability are considered. Concurrently scheduled with CM205/CM215. Graduate students are expected to apply more sophisticated knowledge and produce a research paper of greater depth.

246C. Topics in Linguistic Anthropology. (Same as Anthropology M241.) Prerequisite: consent of instructor. Prob. May be repeated for credit.

250. Topics in Phonetics and Phonology I: Prosodic I (½ course). Prerequisite: course C165A/C200A. Courses 201A and 203 may be required. Specialized topics in phonetics and phonology. May not be applied toward the M.A. or Ph.D. degree requirements. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

252. Topics in Syntax and Semantics I: Prosodies I (½ course). Prerequisite: course C200A. Courses 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. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

253. Topics in Language Variation I: Prosodies I (½ 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 requirements 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: Prosodies I (½ course). Prerequisites: courses C165B/C200A, C165B/C200B, consent of instructor. Course 201A, 201B, 202, 203, 206A, 206B, or 207 may be required. Individual seminars deal with 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: Prosodies I (½ course). Prerequisite: course C165A/C200A. Course 203A 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: Prosodies I (½ 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 256A, 256B, 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 (1 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 (1/4 or 1 course). Prerequisite: course 258A. Specialized topics in language variation. May be repeated for credit. Meets with course 254. 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, 20B, 206A, 206B, or 207 may be required. Individual prosem-

inars 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 (1/4 or 1 course). Prerequisite: course 259A. Individual pro- seminars 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).

260A-260B-260C. Seminar in Phonetics (1/4 or 1 course). Discussion, three hours. Prerequisite: content 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 (1/4 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 (1/4 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 (1/4 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 (1/2 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: compi- tion 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). Prerequi- site: graduate standing. Same as course 275, but taken without credit by students not presenting a colloquium. S/U grading.

375. Teaching Apprentices Practicum (1/4 to 2 courses). Prerequisite: appointment 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 (1 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 else-where on campus. May not be applied toward the M.A. or Ph.D. degree requirements. S/U grading.

422. Practicum in Phonetic Data Analysis (1/4 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.

433. The Use of Computers in Linguistics (1/4 course). Prerequisite: graduate standing in linguistics. Guided use of the departmental computer facil- ities. May not be applied toward the M.A. or Ph.D. degree requirements. S/U grading.

495. College Teaching of Linguistics (1/4 course). Prerequisite: graduate standing. Required of all new teaching assistants. Seminars, workshops, and ap- prentice teaching. Selected topics including curricu- lum development, various teaching strategies and their effects, teaching evaluation, and other topics on college teaching. Students must receive unit credit toward full degree, but not toward any degree re- quirements. S/U grading.

501. Cooperative Program (1/2 to 2 courses). Prerequ- isite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, depart- ment Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neigh-boring institutions. S/U grading.

596A. Directed Studies (1/4 to 2 courses). Prerequi- site: written consent of the under-graduate deficiency courses. Directed individual study or research. May be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.

596B. Directed Linguistic Analysis (1/4 to 2 courses). Prerequisite: completion of the M.A. de- gree requirements. Intensive work with native spe- cifiers by students individually. May be repeated for credit. S/U grading.

597. Preparation for M.A. Comprehensive and Ph.D. Qualifying Examinations (1/4 or 1 course). Prerequisite: at least six graduate courses in linguistics. May be taken only in the quarters in which stu- dents expect to take the comprehensive or qualifying examination. May not be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.

598. Research for M.A. Thesis (1/4 to 2 courses). Prerequisite: consent of guidance committee chair. Preparation for and writing 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. Research for Ph.D. Dissertation (1/4 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 num- bered 101A-101B-101C.) Lecture, five hours. The major language of East Africa, particularly Tanzania.

2A-2B-2C. Intermediate Swahili. (Formerly num- bered 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 Afri- ca, mutuially intelligible with other members of this group.

9A-9B-9C. Intermediate Zulu. (Formerly num- bered 110A-110B-110C.) Prerequisites: courses 9A-9B-9C or consent of instructor. Mr. Kunene.

11A-11B-11C. Elementary Xhosa. (Formerly num- bered 111A-111B-111C.) Lecture, five hours. Prereq- uisite: consent of instructor. The major language of Western Nigeria.

12A-12B-12C. Intermediate Xhosa. (Formerly num- bered 112A-112B-112C.) Prerequisites: courses 11A-11B-11C or consent of instructor.


14A-14B-14C. Intermediate Igbo. (Formerly num- bered 114A-114B-114C.) Prerequisites: courses 13A-13B-13C or consent of instructor.


21A-21B-21C. Elementary Fula. (Formerly num- bered 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 num- bered 131A-131B-131C.) Lecture, five hours. Prerequisite: consent of instructor. The major lan- guage of Mali, also widely spoken in adjacent parts of West Africa; includes Maninka (Malinke), Dyula, and other mutually intelligible dialects.


41A-41B-41C. Elementary Hausa. (Formerly num- bered 141A-141B-141C.) Lecture, five hours. The major language of Northern Nigeria and adjacent areas.

42A-42B-42C. Intermediate Hausa. (Formerly num- bered 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

123A-132B-132C. Advanced Bambara. Prerequisites: courses 32A-32B-32C or consent of instructor. Readings in Bambara literature and the contemporary press. Discussions mainly in Bambara. Mr. Schuh

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 (1/4 to 11/2 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 (1/4 to 11/2 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


218. Celtic Linguistics


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

204A-204B. Transformational Grammar

206. Linguistics

209. Dialectology

M251. Studies in Galician-Portuguese and Old Spanish

M256A-M256B. Studies in Linguistics and Dialectology

Turkish Languages (Near Eastern Languages) 230A-230B-230C. A Historical and Comparative Survey of the Turkish Languages

Mathematics

6356 Math Sciences, 825-4701

Professors

Richard F. Arens, Ph.D.

Donna H. 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. 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.

Edward Effros, Ph.D.

Richard S. Elman, Ph.D.
Scope and Objectives

Gauss has called mathematics the "Queen of the Sciences." It has provided powerful intellectual tools that have made possible tremendous advances in modern science and technology. The Department of Mathematics aims to provide courses of study that will introduce students to the fundamentals of mathematics and allow them to master the most important parts of the subject, both pure and applied. It leads doctoral students to the frontiers of mathematical research, where they can begin to push back those frontiers.

Undergraduate Study

Preliminary Examination in Mathematics

If you wish to enroll in 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
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 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, either 150A or 152A, and two courses from 113, either 140B or 141B, 151, 153; 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) 3E, 4E; (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.

**Credentialed 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 in 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 taken 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 probability-statistics). Two of these three examinations are to be completed by the end of six quarters after being admitted to graduate study; the third by the end of nine quarters. The fourth qualifying examination, either written or oral, is in your specialized "outside" field, testing your competence at a research level.

After passing the four qualifying examinations, you may set up the doctoral committee which administers the University Oral Qualifying Examination for advancement to candidacy.
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 degree requirements. Not open for credit to students with credit for other mathematics courses. Designed for students requiring a review of elementary and intermediate algebra. Arithmetic 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. Prerequisite: course 1A or 1B with a grade of C– or better, or two or one-half years of high school mathematics and successful completion of the Level I Chemistry/Mathematics Preliminary Examination. The collection of common functions and their graphs, zeros 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 1A with a grade of C– or better. Techniques and applications of the integral calculus.

3C. Calculus for Social Science Students. Prerequisite: course 3B with a grade of C– or better. Functions of several variables, partial differentiation, and multiple integration.

3E. Calculus for Economics Students. Prerequisite: course 3A or 31A with a grade of C– or better. Not open for credit to students with credit for courses 3B, 3C, 3B, 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 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: 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; solutions of equations, and extremum 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. Elementary 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.

33A-BH. 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, operations; origins, uses, and structure; and use. Emphasis is on understanding of arithmetic procedures. Laboratory includes experience with aids and models. 33A. 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. 33B. Prerequisite: course 33A. 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 course 101A or 101B. 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.

102A-102B. 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, number 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, non solvability. (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 104). The real number system, operations; origins, uses, and structure; and use. Emphasis is on understanding of arithmetic procedures. Laboratory includes experience with aids and models. 33A. 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. 33B. Prerequisite: course 33A. 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.

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 to credit students with credit for course 101A or 101B. The integers, primes, congruences, 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.
11A-111B. 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.

11A-122B-112C. Set Theory and Logic. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. 115A 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 the primality of duality; 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; 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 of revolution, intrinsic geometry of surfaces, isometries, geodesics, Gauss-Bonnet theorem.

121. Introduction to Topology. Prerequisite: course 114A. Metric and topological spaces, topological properties, completeness, mappings and homeomorphisms, the metrization theorem.

122. Projective Geometry. Prerequisite: course 115. Projective spaces, especially lines and planes; homogeneous coordinates, projective transformations, interpolation and approximation, finite projective spaces, linear projective functions, conics, inverse functions, extremum problems.

Analysis

131A-131B. Analysis. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Real numbers, point set topology in IR, 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, uniform convergence, power differential calculus, implicit and inverse function theorems, extremum problems.

131A-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, 115A. Functions of a complex variable, analytic functions, calculus of residues, conformal mapping and mapping functions with applications.

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, differential equations, and integration. 140C, Differential equations, systems of nonlinear equations, and optimization.


142. Mathematics of 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 mathematics is used to formulate and solve problems in such areas as mechanical vibrations, fluid dynamics, 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 33B. Fourier series and integrals and transform methods; applications to game theory, 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 integrals and transform methods; applications to game theory, linear programming, the duality theorem, and simplex methods; applications to industrial and business 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 queuing 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 covers courses 150A-150B-150C in 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.

169. Mathematics of Computer Graphics. Lecture, three hours; discussion, one hour. Prerequisite: course 115. Study of homogeneous coordinate, 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 in the course in advance of submission). Each student will do an extensive project involving research in 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 (1 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 (1/4 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 theories 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.


Algebra

210A-210B-210C. Algebra. Prerequisites: courses 110A-110B-110C or consent of instructor. Group theory, including the theorems of Sylow and Jordan-Hölder-Schreier; rings and ideals, factorization theory and integral domains, modules over principal 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, 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, derived functors, homology, and cohomology.

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, soluble 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; constructive 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, equation classes, applications to lattices, and topology.

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.

225C. Recursion Theory. Prerequisites: courses 220A-220B-220C. Topics include unsolvability, recursively enumerable sets, undecidable theories, inductive definitions, admissible sets and ordinals, and recursion in higher types.


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; minimal surfaces, nonnegative sectional curvature. Further topics such as pinched manifolds, integral geometry, Kahler manifolds, symmetric spaces.

228. Convex Sets. Prerequisite: courses 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.


Topology

230. General Topology. Prerequisites: courses 131A-131B or consent of instructor. Topological spaces and maps, connected and compact 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 theories, de Rham's theorem, cup products, and transversality intersection theory of submanifolds. Additional topics as time permits.

222A-222B-222C. Algebraic Topology. Prerequisites: courses 220A-220B-220C. Algebraic topology; homotopy, singular topology, cellular topology, homology of homogeneous spaces, fiber bundles, surgery; 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. Prerequisite: courses 222A-222B-222C or consent of instructor. K-theory; fixed point theory; extraordinary cohomology theories. Topics vary from year to year.

Analysis and Differential Equations

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 $R_+$ and $T$. Students for course 134 will not receive M.A. degree credit for course 245A.


250C. Advanced Topics in Ordinary Differential Equations. Prerequisites: courses 250A, 250B. Selected topics, such as spectral theory or ordinary differential equations, 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; functional solution; the method of separation of variables, Duhamel's 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, quasi-conformal 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 variables; complex manifolds. The $\bar{\partial}$ problem, Cousin problems, domains of holomorphy, complex manifolds.

254A-254B. Trigonometric Series. Prerequisite or corequisite: course 246A or 246A or consent of instructor. Selected topics in Fourier series, power series, orthogonal polynomials, almost periodic functions, 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 topics, including Hilbert spaces and $C^*$ algebras. Topics for course 134 will not receive M.A. degree credit for course 255A.

255B-255C. Topological Groups and Their Representations. Prerequisite: course 255A or consent of instructor. Topological groups and their representations. Haar measure. Compact groups and their representations. Duality and Fourier analysis on locally compact abelian groups. Induced representations, Frobenius reciprocity, Representations of special groups (Lorentz, Galilean, etc.). Projective representations. Representations of totally disconnected groups.


Applied Mathematics

260. Introduction to Applied Mathematics. Prerequisite: course 142 or consent of instructor. The construction, analysis, and interpretation of mathematical models of problems which arise outside of mathematics.

263A. 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: courses 132 and 140A. 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, $L^p$ and $L^q$ spaces. Fourier series. General measure and integrations, Fubini and Radon-Nikodym theorems, representation of functionals, Fourier integrals.


267A-267B. Applied Algebra. Prerequisite: course 110A or equivalent. Linear algebra, eigenvalues, and quadratic forms. Introduction to 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.


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, least squares, eigenvalue problems, computational fluid dynamics: finite differences, finite elements, spectral 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: courses 132 and 140A. Instructor. General concepts of mechanical systems (states, space-time, "labor" etc.). Classical and quantum examples. Correspondence principle, spinors.


M274B. Asymptotic and Perturbation Methods II. (Same as Mechanics and Structures M292B.) Prerequisites: course 132 and Engineering 192A, or equivalent. Selected topics in singular perturbation problems, multiple-scale methods, application to partial differential equations, near and far fields.

Mr. Muki (F)
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, 152A, 152B, and 151A-151B. 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.

277A. 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 276A. Nonparametric and robust procedures are developed for hypothesis testing, estimation in one- and two-sample problems, linear and nonlinear regression, multiple classification, density estimation.

278A-278B. Linear Statistical Models. (Same as Public Health M279A-M279B.) 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.

280. Computational Statistics. (Same as Bioinformatics M280 and Public Health M207J.) Lecture, three hours. Prerequisites: courses 115 and 150C, or equivalent. Introduction to statistical programming: pivoting and other technologis used in stepwise regression, nonlinear regression algorithms, algorithms for balanced and unbalanced analysis of variance, including the mixed model, iterative reweighting 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 lectures and informal conferences with members of the staff.

285A. Seminar in the History and Development of Mathematics.

285B. Seminar in Number Theory.

285C. Seminar in Algebra.

285D. Seminar in Logic.

285E. Seminar in Geometry.


285G. Seminar in Analysis.

285H. Seminar in Differential Equations.

285I. Seminar in Functional Analysis.

285J. Seminar in Applied Mathematics.


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 286A. Invariant estimates and tests; best unbiased and locally best tests; multiple decision problems; application to the general linear model; other topics.

375. Teaching Apprentice Practicum (½ 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 force 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 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 15 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.

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. Eisenling, 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. Terino, M.D. (Medicine)
Bernadine J. Wiatrowski, Ph.D.
Owen N. Witte, M.D.

Assistant Professors
Aldons J. Luis, Ph.D., in Residence (Medicine)
Robert P. Gunsalus, Ph.D.

Professor
John H. Stilliker, 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, cellular 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 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 quarters), 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 acceptable 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 one such course (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) and 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 background 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 scientific community will also present lectures in their special areas.

Mr. Fox, Mr. Witte (W)
10. General Microbiology. Lecture, three hours; labora-

atory, six hours. Prerequisites: course 7 (or Biology 7), Biology 5, Chemistry 11A, 11B, 11C. Designed for science majors. 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 disease. Mr. W. Lusis (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. 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 (¼ course). Prerequisites: senior standing and consent of instructor. Diagnostic procedures and 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, and 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. Prerequisites: course 110. Techniques in the laboratory examination of clinical material.

Mr. Pickett (F)

C111. Biology of the Prokaryotic Cell. (Formerly numbered 111.) Lecture, three hours; discussion, one hour. Prerequisites: course 101 and Chemistry 152, or consent of instructor. 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. Currently scheduled with course C211.

Mr. Eisinger, Ms. Wiesniewski (W)

113. Bacterial Metabolism. Lecture, three hours; discussion, one hour. Prerequisite: Chemistry 152 or consent of instructor. The major patterns of growth 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. Prerequisite: 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. McNiel (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 immunology and immunocompetence; cellular and molecular aspects of humoral and cell immunity 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 M186 must be taken concurrently. The course will focus on experimental designs 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. Designated primarily 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 immunoochemistry 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: consent of instructor. Immunological techniques utilized in the modern research and clinical laboratory are emphasized.

Mr. Sercarz (Sp, five weeks)

195. Proseminar (1/2 course). Discussion, one hour. Prerequisites: seniors or 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 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. Discussion 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, 25, or equivalent, or consent of instructor. Introductory to bacterial growth. Emphasis 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. Nielert (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 genetic systems 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)
224. 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 radiolabeling.

Mr. Collier, Mr. Wilcox (W)

M230A. Structural Molecular Biology (1/2 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. Eisering, 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. Eisering, Ms. Kasamatsu.

Mr. Lake (F)

238. Techniques in Nucleic Acid Research (1/2 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, cDNA, centrigugation, chromatography, and electrophoresis, and characterization by restriction mapping and blot hybridization. Cloning in bacterial and plasmid vectors, sequence determination by the diodexy technique, computer analysis of sequences.

Mr. Nierlich, Mr. Simpson (Sp)

M239L. Laboratory in Nucleic Acid Research (1/4 courses). (Formerly numbered M239.) Lecture, ten hours. Corequisite: course M239. Laboratory in advanced methods in characterization of genes, including sequence determination. Isolation of nucleic acids, cDNA, centrigugation, chromatography, and electrophoresis, and characterization by restriction mapping and blot hybridization. Cloning in bacterial and plasmid vectors, sequence determination by the diodexy technique, computer analysis of sequences.

Mr. Nierlich, Mr. Simpson (Sp)

246. Biochemistry of Host Defense (1/2 course). (Same as Biology M263L.) Lecture, ten hours. Corequisite: course M263 or equivalent and consent of instructor. Emphasis on molecular mechanisms. Discussion and student presentations of recent work in molecular biology, virology, immunology, and the regulation of tissue lipid metabolism and the development of atherosclerosis. Each course may be taken independently for credit.

270. Seminar in Molecular Virology (1/4 course). Prerequisite: 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. Wisnieski (F, W, Sp)

280. Seminar in Molecular and Cellular Endocrinology (1/4 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 (F)

298. Seminar in Current Topics in Molecular Biology (1/4 course). (Same as Biological Chemistry M296A, Biology M298, Chemistry M296, and Microbiology M298.) Discussion, one hour. Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology. Prerequisites: course M185 or Microbiology M212. The seminar 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.

299. Teaching Apprentice Practicum (1/4 to 1 course). Prerequisite: consent of instructor. Discussion and student presentations of recent work in molecular biology, virology, immunology, and the regulation of tissue lipid metabolism and the development of atherosclerosis. Each course may be taken independently for credit.

Mr. Rock (F, W, Sp)

375. Teaching Practicum (1/2 to 3 courses). Prerequisite: apprenticeship personnel employment as a teaching assistant, or fellow. A minimum of 30 hours per week is required. Students receive an abstract book 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)
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. Boyles, Ph.D. (Biochemistry), Director
William R. Clark, Ph.D. (Immunology)
R. John Collier, Ph.D. (Biochemistry and Geophysics)
R. John Collier, Ph.D. (Molecular Biology)
David S. Eisenberg, Ph.D. (Biochemistry and Molecular Biology)
Frederick A. Eiserling, Ph.D. (Microbiology)
John H. Fessler, Ph.D. (Biology and Molecular Biology)
James A. Lake, Ph.D. (Microbiology and Molecular Biology)
David S. Eisenberg, Ph.D. (Biochemistry and Molecular Biology)

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. Luzis, Ph.D., in Residence (Microbiology)
Kevin McIntyre, 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 (1/2 course). (Same as Biological Chemistry M298, Biology M298, Chemistry M298, Microbiology M298, and Microbiology and Immunology M298.) Discussion hour, prerequisite: consent of instructor and graduate advisor 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, M266A-266B-266C, M267, M269, M298
Microbiology 250, 251, M256A, M258B
Microbiology and Immunology 208, 225, 250, 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 Bodrogkuti, Ph.D. (Turkish 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)
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 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 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 Arabic 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) departmental examination administered by department, (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: (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 expected 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.

Mr. Callender
145. Sumerian Literary Texts. Lecture, three hours. Prerequisites: courses 140A-140B or consent of instructor. Reading and interpretation of selected Sumerian literary texts.
150A-150B-150C. Survey of Ancient Near Eastern Literatures in English. Lecture, three hours. Each course may be taken independently for credit. 150A. Akkadian and Ugaritic, Asia Minor, Persia.

150A-150B. Introduction to Near Eastern Archaeology. Lecture, three hours. Terminology, geography, principles of research, bibliography, and a general survey of Near Eastern archaeology. Ms. Carter

151A-151B-151C. Archaeology of the Near East. Lecture, three hours. A survey of the archaeology of Palestine and neighboring areas. Each course may be taken independently for credit. Ms. Carter

152. 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. 153A-153B. Archaeology of Iran. (Formerly numbered 163.) Lecture, three hours. Designed to introduce students to Iranian archaeology from prehistoric through Achaemenid times. 153A will focus on the prehistoric and early protohistoric phases of Iranian archaeology. 153B will cover the archaeology of Elam, the Iron Age, and the Achaemenid Empire. Ms. Carter

154A-154B-154C. 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. Ms. Carter

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. Ms. Carter

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

172. Septuagint 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 Septuagint 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
M104C. History of Ancient Mesopotamia and Syria
M105. 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, discussion of literary works, composition, conversation, and a weekly lecture in Arabic. Mr. Bonebakker

Upper Division Courses

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. Bonebakker

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 Graeco-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 (½ 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. Mr. Carter

272. Semitic Background of the New Testament. (Formerly numbered 272.) 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

275. Demotic: A Language for the Study of the Ancient World. Lecture, two hours. Prerequisites: courses 121A-121B-121C or consent of instructor. A study of the Demotic script. May be repeated once for credit by consent of instructor. Mr. Bonebakker

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. Bonebakker

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. Bonebakker

250A-250B-250C. Seminar in Arabic Literature. Seminar, two hours. May be repeated for credit by consent of instructor. Mr. Poonawala

260A-260B-260C. Introduction to Modern Arabic Dialects. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. Survey of the spoken Arabic dialects of Morocco, Phonology, morphology, and syntax will be presented. emphasis will be on developing oral skills. Mr. Poonawala

272. Semitic Background of the New Testament. (Formerly numbered 272.) Lecture, two hours. Prerequisites: courses 121A-121B-121C or consent of instructor. A study of the Demotic script. May be repeated once for credit by consent of instructor. Mr. Bonebakker

290. Special Studies in Arabic (½ to 2 courses). Prerequisite: consent of instructor.
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


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 modern Armenian is not required. Each course may be taken independently for credit. Mr. Sanjian

150A-150B. Armenian Literature of the 19th and 20th Centuries. Lecture, three hours. Prerequisites: courses 132A-132B or equivalent. Readings of texts and discussion of various genres of modern Armenian literature within the context of the Armenian cultural renaissance. Mr. Sanjian

196. 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


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 a 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 of 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.

280 / Near Eastern Languages and Cultures / COLLEGE OF LETTERS AND SCIENCE

Hebrew

Lower Division Courses

1A-1B-1C. Elementary Hebrew. Lecture, three hours; laboratory. 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 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, Ahdad 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-103G or consent of instructor. The Hebrew essay from its rise in Europe in the late 18th century to the contemporary Israeli esay. 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 relationship to Arabic and other Semitic languages, methods of language expansion in Israel, biblical, and 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. Poonawala

231. Texts in Judaeo-Arabic. Prerequisite: a reading knowledge of Hebrew and Arabic. Reading of philologic 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 (1/2 to 2 courses). May be repeated for credit.

597. Examination Preparation (1/2 to 2 courses).

598. Ph.D. Dissertation Research and Preparation (1/2 to 2 courses).

Iranian

Lower Division Courses

10A-10B-10C. Persian Conversation (1/2 course each). Lecture, three hours. Prerequisite: consent of instructor. Systematic and structured conversation Persian. Mr. Banani

103A-103B-103C. Advanced Persian. Lecture, three hours. Prerequisites: courses 102A-102B-102C 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. 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 Iran from the beginnings to the Yezidie period. Mr. Schmidt

170. Religion in Ancient Iran. A survey of the major religious systems in Iran from the beginnings to the Mohammadan conquest. Indo-Iranian background. Mr. Schmidt

190A-190B. Introduction to Modern Iranian Studies. Lecture, three hours. Prerequisites: courses 101A-101B or equivalent. Survey of the Iranian languages. Comparative and historical grammar. Mr. Boodaghi

199. Special Studies in Iranian (1/2 to 2 courses). Prerequisite: consent of instructor.

Graduate Courses

211A-211B. Modern Iranian Dialects. Prerequisites: courses 102A-102B-102C or consent of instructor. A survey of the Northwestern and Southwestern Persian 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 Sufism and Sufi creativity. Mr. Band

230A-230B. Old Persian. Prerequisite: consent of instructor. Studies in the grammars and texts of Old Persian and Avestan. Comparative considerations. Only course 230B may be repeated for credit. Mr. Schmidt

231A-231B. Middle Persian. Prerequisite: consent of instructor. Studies in the grammars and texts of Middle Persian languages as best serve the students' needs (e.g., Pahlavi, Sogdian, Skt. 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. 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 (1/2 to 2 courses). May be repeated for credit.

597. Examination Preparation (1/2 to 2 courses).

598. Ph.D. Dissertation Research and Preparation (1/2 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

Jewish Studies

Upper Division Courses

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 Qur'an; forms of Islam: tensions and schism; reform and modernism. Mr. Poonawala

Graduate Courses

596. Directed Individual Study (1/2 to 2 courses). May be repeated for credit.

597. Examination Preparation (1/2 to 2 courses).

598. M.A. Thesis Research and Preparation (1/2 to 2 courses).

599. Ph.D. Dissertation Research and Preparation (1/2 to 2 courses).

Related Courses in Another Department

History 107A-107B. Islamic Civilization

Islamic

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 Qur'an; forms of Islam: tensions and schism; reform and modernism. Mr. Poonawala

Graduate Courses

596. Directed Individual Study (1/2 to 2 courses). May be repeated for credit.

597. Examination Preparation (1/2 to 2 courses).

598. M.A. Thesis Research and Preparation (1/2 to 2 courses).

599. Ph.D. Dissertation Research and Preparation (1/2 to 2 courses).
Semiotics
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 traditions of the work and their literary structure. Mr. Buccellati

Graduate Courses

200A. 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. Mr. Arakelian

M241. Folklore and Mythology of the Near East. (Same as Folklore M241.) Prerequisite: Folklore 101 or equivalent.

250. Seminar in Paleography. Seminar, three hours. Provides students with the ability to cope with varieties of manuscripts.

375. Teaching Apprentice Practicum (1/4 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 (1/2 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 (1/2 to 2 courses). May be repeated for credit.

597. Examination Preparation (1/2 to 2 courses).

599. Ph.D. Dissertation Research and Preparation (1/2 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. Mr. Jaeckel

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 Turkish people. Mr. Bodrogligeti

199. Special Studies in Turkic Languages (1/2 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 Diplomatology. 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

241X. Seminar in Akkadian Literature (1/2 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 240. 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 (1/2 to 2 courses). May be repeated for credit.

597. Examination Preparation (1/2 to 2 courses).

599. Ph.D. Dissertation Research and Preparation (1/2 to 2 courses).
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 105 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, 206-6235

Professors
Hartmut E. F. Scharfe, Ph.D. (Indic Studies)
Ensho Ashikaga, M. Litt., Giko, Emeritus
Kenneth 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. Pietschow, Ph.D.
Richard E. Strassberg, Ph.D.
Shirleen S. Wong, Ph.D.

Lecturers
Y. C. Chu, M.A. (Chinese)
Ko-kyu Pao (Uneseen), 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 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

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

The Major
Required: A total of 11¼ 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. 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.

5A-5B-5C. 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 (1/2 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. Straussberg

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.
   Mr. Pao


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. Chou

40A. Chinese Civilization. Knowledge of Chinese is not required. A survey of the development of the outstanding aspects of Chinese culture from ancient times to modern times.
   Mr. Epp

   Mr. Chou

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

   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. Straussberg, Ms. Wong

115A-115B-115C. Advanced Spoken Japanese (1/2 course each). Prerequisites: course 19C and consent of department. Limited enrollment; priority to Japanese majors.


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. Modern leftist 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 19B or consent of instructor. Introduction to literary Japanese, with readings and discussions in the prose and poetry of the Heian period.
   Mr. Belu

134A. Introduction to Kawabata Yasunari. Lecture, three hours. Prerequisite: course 19C. Reading and analysis of the Nobel Laureate’s short stories, with particular emphasis on their emotional structure.
   Mr. Epp

139. 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.

   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 111C 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 Chinese literary style, 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 set permeates interpersonal relationships, and the way the system has functioned in the past. Mr. Plutschow

153A. Kawabata’s Contemporaries. Lecture, three hours. Prerequisite: course 119B or 134A or 134B. Readings in the fiction and poetry of Touse Masui, Maruyama Kaoru, Ozaki Kazuo, Tsuboi Sakae, and Yokomitsu Reichi. 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 novel Technique. Mr. Epp

154A-154B. Mongolian. Lecture, three hours: laboratory, one hour. To be offered when requested by a sufficient body of students. Mr. LaFleur

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

185. Readings in Sanskrit. Prerequisite: course 162 or equivalent. Extensive reading in such texts as best serve the student’s needs. Mr. Scharfe

187. 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; Introduction to Chinese Archaeology. Early Chinese study of their own past, types of artifacts, antiques, 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. Mr. Scharfe

173. Chinese Buddhism. Knowledge of Asian languages is not required. The introduction and development of Buddhism in China, interaction between Buddhist and Chinese culture, rise of the Chinese schools of Buddhism such as Pure Land and Zen, contributions to Chinese culture. Mr. LaFleur


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. Mr. Plutschow

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 Chinese and 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 Chou period 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 but求 Shinto, the rise of pessimistic attitudes (mappaio), philosophical 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 "Writing Inscriptions" 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" as 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 being realized the philosophical principles of critical treatments through mastery of the traditional materials and elements of landscape. Mr. Scharf

199. Special Studies in Oriental Languages (% to 1 course). Prerequisites: senior standing in department and 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.
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


Sociology 134. Comparative Social Institutions of East Asia

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; 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.

Colleges of Letters and Science / Philosophy / 235

261A-261B. Seminar in Classical Chinese Poetry. Prerequisites: courses 152A and/or 152B, or consent of instructor. 261A. Chinese poetry from the Shih-chieh 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 tzu 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. Lafort

285. 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. Belu

301. Teaching an Oriental Language as a Foreign Language.

375. Teaching Apprentice Practicum (1/2 to 1 course). Prerequisite: appointment as 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 (1/2 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.


597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination. 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

Philosophy

321 Dodd Hall, 825-4641

Professors
Marilyn Adams, Ph.D.
Robert Merritew Adams, Ph.D.
Rogers Albritton, Ph.D.
Tyrer Bunge, Ph.D.
Alonzo Church, Ph.D., in Residence (Fintel Professor of Philosophy)
Keith S. Donnellan, Ph.D.
Philippa Foot, M.A.
Montgomery Firth, 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. (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 weapons, and defense and the search, 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, guilt, 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? What is the meaning of good versus evil? 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. 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 a examination of some of the central doctrines of the 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 study of logic. The elements of symbolic logic, sentential and quantificational forms of reasoning and structure of language.

Mr. Burge, Mr. Kaish, 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. Kaish, Mr. Kaplan

Upper Division Courses

Group I: History of Philosophy

100A. History of Greek Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: course 31 or two courses in philosophy or consent of instructor. An introductory study of Greek philosophy, with emphasis on the metaphysics and epistemology of Plato and Aristotle.

Mr. Alston, 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 philosophico-theological and the transition from the medieval to the early modern period. Special emphasis on Augustine, Anselm, Aquinas, and Descartes.

Ms. 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.

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. A study of some central topics such as the problem of existence, the 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. A treatment of the philosophy 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 some topic such as logic or the 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. Course may be repeated for credit by consent of instructor.

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.

Mr. 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 philosophy in 19th-century thought.

117. Late 19th- and Early 20th-Century Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or 22 or consent of instructor. A study of the philosophy of Nietzsche, Freud, and Wittgenstein.

Mrs. Adams

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. Selected topics to 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 32 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). Mr. Kalish, Mr. Kaplan

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

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 predicative definition (Russell), Pointwise, 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 issues 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 relativist views of space and time, philosophical implications of relativity theory. Mr. Mealey

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. Mealey

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. Prerequisites: course 32. Recommended: course 134 or equivalent. Models, satisfiability, truth, definability, logical truth and logical consequence; consistency and completeness. Mr. Church, Mr. Kalish, Mr. Kaplan

136. Modal Logic. Prerequisite: course 32. Recommended: course 134 or equivalent. 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. Mr. Hill, Mr. Quinn

153A. Topics in Ethical Theory: Normative Ethics. Prerequisite: course 22 or consent of instructor. A study of ethical theories. Selected topics may include the analysis of moral language and the justification of moral beliefs. Mr. Kaplan

153B. Topics in Ethical Theory: Metaethics. Lecture, three hours. Prerequisite: course 22 or consent of instructor. A study of selected problems in meta-ethics. Mr. Kaplan

154. Medical Ethics. An examination of the philosophical issues raised by problems of medical ethics such as abortion, euthanasia, and medical experimentation. Mrs. Foot

155. Topics in Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisites: two courses in philosophy or consent of instructor. A study of selected problems in political philosophy. Mr. Kaplan

156. Topics in Political Philosophy. Lecture, three hours; discussion, one hour. Topics to be announced. May be repeated for credit by consent of instructor. Mr. Adams

157A-157B. Philosophy of Political Theory. (Formerly numbered 157.) Lecture, three hours; discussion, one hour: Prerequisites: two courses in philosophy or consent of instructor. A study of some basic concepts in political theory. May be repeated for credit by consent of instructor. Mr. Adams

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. Mrs. Hampton, Mr. Hill

161. Topics in Aesthetic Theory. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of instructor. Philosophical theories about the mind and function 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: course 21 or consent of instructor. An examination, through the study of recent philosophical writings, of the nature of law, the relationship of law and morals, legal reasoning, punishment, and the obligation to obey the law. Mr. Hampton, Mr. Morris

Group IV: Epistemology and Metaphysics

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; the relation between language and thought; the nature of language. Mr. Donnellan

175. Topics in Philosophy of Religion. Lecture, three hours; discussion, one hour. Prerequisites: course 21 or 22 or consent of instructor. An intensive investigation of one or two topics or works in the philosophy of religion. 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. An analysis of the methods, presuppositions, and views of some of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Sartre, Marcell, and Camus. Possible topics include metaphysical foundations, nature of mind, freedom, problem of the self, other people, ethics, existential psychoanalysis. Mr. Adams

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 explanation 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. An analysis of the methods, presuppositions, and views of some of the following: Brentano, Husserl, Heidegger, Scheler, Sartre, Merleau-Ponty, Ricoeur. Topics include ontology, epistemology, and the nature of mind. Mr. Adams

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 theories (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 knowledge, 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, Mr. Albritton, Mr. Dornellan, Mr. Healey

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. Dornellan, Mr. Healey

186. Topics in the Theory of Knowledge. Prerequisite: course 21 or 182 or one course in philosophy 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 justifed 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. DuBois, 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. The study 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. Selected topics. May be repeated for credit by consent of instructor.

197. Reading and Writing Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: 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

198. 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, on topics of interest to students 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

220A. Aristotle. Prerequisite: consent of instructor. Topics in Aristotle's philosophy. 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

220B. Locke. Prerequisite: consent of instructor. Selected topics in the philosophy of Locke. 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

221A. Kant. Prerequisite: consent of instructor. An intensive study of selected writings of Immanuel Kant.

Mr. Hill

221B. Non-Neumannian Set Theory. Prerequisite: course 221A or consent of instructor. Standard (so-called Z-F) set theory relies on a principle of limitation which are as a means of avoiding antinomy. This principle was first formulated explicitly as an axiom of set theory by von Neumann, set theories in which it falls 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. Seminar: Logic. Prerequisite: consent of instructor. Selected topics 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. Seminar: Logic. Prerequisite: course 222A. Second-order arithmetic. Second in a series of three courses leading up to Gödel's incompleteness theorem and Tarski's definition of truth.

222C. Seminar: Logic. Prerequisite: consent of instructor. Topics in modal logic, theory of knowledge, formal semantics, and model theory. 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 culture 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 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. Foremost among the Zermelo-Fraenkel system. 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 limitation which are as a means of avoiding antinomy. This principle was first formulated explicitly as an axiom of set theory by von Neumann, set theories in which it falls 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. Seminar: Logic. Prerequisite: consent of instructor. Selected topics 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. Seminar: Logic. Prerequisite: course 222A. Second-order arithmetic. Second in a series of three courses leading up to Gödel's incompleteness theorem and Tarski's definition of truth.

222C. Seminar: Logic. Prerequisite: consent of instructor. Topics in modal logic, theory of knowledge, formal semantics, and model theory. 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 culture 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: courses 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
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

M255. 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, three 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. Mr. Albritton, Mr. Donnellan

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. Mr. Burge

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. Mr. Donnellan

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 semantic 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 (1/4 to 1 course). Prerequisite: apprentice personal employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

495. Teaching of College Philosophy (1/4 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 (1/2 to 2 courses). Properly qualified graduate students who wish to pursue a problem through reading or advance 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 (1/2 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 (1/4 to 2 courses). Prerequisite: advancement to doctoral candidacy. May be repeated for credit. S/U grading.

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 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.


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. 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.


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. 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.

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, 221G, 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 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 divide, 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 freshmen 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 (1/2 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-semester 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. Electromagnetic DC and AC circuits. (W)

3C. General Physics: Light, Relativity, and Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: Mathematics 3B, 3C and 3E (may be taken concurrently), or equivalent. (F,W)

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)

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)

8A. Physics for Scientists and Engineers: Mechanics. Lecture and demonstration, four hours; discussion, one hour; laboratory, two hours. Prerequisites: course 3A or equivalent. Harmonic oscillators, standing and traveling waves, fluid dynamics, sound, kinetic theory of gases, laws of thermodynamics. (F,W)

8B. Physics for Scientists and Engineers: Waves, Sound, Heat. Lecture, one hour; laboratory, 90 minutes. Corequisite: course 8A or consent of instructor. (F,W)

8B. Physics for Scientists and Engineers: Waves, Sound, Heat, and Kinetic Theory (Honors). Lecture and demonstration, four hours; discussion, one hour; laboratory, two hours. 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)

8BL. Physics Laboratory for Scientists and Engineers: Waves, Sound, Heat, and Kinetic Theory (Honors). Lecture, one hour; laboratory, 90 minutes. Corequisite: course 8B or consent of instructor. (F,W)

8BH. General Physics: Vibration, Wave Motion, Sound, Fluids, Heat, and Kinetic Theory (Honors). Lecture and demonstration, four 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)

8BH. Physics for Scientists and Engineers (Honors) (1/4 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)

8C. Physics for Scientists and Engineers: Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8B, Mathematics 32A. Corequisites: course 8CL, Mathematics 32B. Electrostatics: electric field and potential, capacitors and dielectrics. Currents, DC circuits, transient in AC 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)

242 / Physics / COLLEGE OF LETTERS AND SCIENCE
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: course 14A. Mathematics 31B. Introduction covers the mechanics in that satisfy the physics prerequisites for course 6B or 8B. Primarily intended for students who are inadequately prepared for course 6A or 8A, the course includes lectures, demonstrations, discussions, laboratory, and small group problem solving sessions.

Upper Division Courses

Prerequisites for all upper division courses:

Physics 9A-9B, Mathematics 31A, 31B, 32A, 32B, 33A, and (except for Physics 105A, 116) 33B, or consent of instructor. Students must complete one quarter of upper division physics before enrolling in the 180 laboratory series.


105B. Analytic Mechanics. 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. Introduction to 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.


112. Thermodynamics. (Formerly numbered 112A.) Lecture, three hours; discussion, one hour. Prerequisite: course 110B. The classical background, basic ideas, and historical development and philosophical sources of thermodynamics. 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; alpha, beta, and gamma emission.


131. Mathematical Methods of Physics. (Formerly numbered 131A.) Lecture, three hours; discussion, one hour. Prerequisite: course 110B. 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 (1/2 to 1 course). May be repeated, but no more than twelve units may be applied toward the Physics B.S. degree requirements.

Graduate Courses


213B. Advanced Atomic Structure. The n=1 symbols, continuous groups, fractional parentage coefficients, n electron systems.


215A. Statistical Physics. Thermodynamics and statistical mechanics with applications.


220. Classical Mechanics. Lecture, three hours. Functionals; Lagrange's method; non-angle variables; canonical perturbation theory, and selected topics such as introduction to physics of continuous media and fluids, nonlinear phenomena.


221B. Quantum Mechanics. Lecture, three hours. Prerequisite: course 221A. Rotations and other symmetry operations, perturbation theory.

221C. Quantum Mechanics. Lecture, three hours. Formal theory of collision processes, quantum theory of radiation, introduction to relativistic quantum mechanics.


223. Advanced Classical Mechanics. Prerequisite: course 220. Topics such as nonlinear mechanics, ergodic theory, mechanics of continuous media.

224. Introduction to the Strong Interaction. Evidence concerning the strong interaction, particularly as exemplified in nucleon-nucleon and pion-nucleon systems. Isospin, the scattering matrix, the density matrix and polarization, the properties of pions, the one-gluon exchange potential, phase shift analysis.


225B. Advanced Nuclear Physics. Nuclear beta decay, nuclear excitations, parity violation, conserved vector current theory, interaction between nucleons and the electromagnetic field.


231A. Methods of Mathematical Physics. Linear operators, review of functions of a complex variable, integral transforms, partial differential equations. Solutions 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 theory techniques in elementary particles and astrophysics.

232C. Special Topics in General Relativity.


235. Group Theory and Quantum Mechanics. Prerequisite: course 221A. Group representation theory and applications to 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.


263. Seminar in Advanced Physical Acoustics.

264. Seminar in Propagation of Waves in Fluids.

265. Seminar in Spectroscopy.

266. 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 (1/2 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 this course, ordinarily during the second or third year. May be repeated for credit.

291. Research Tutorial in Elementary Particle Physics (1/2 or 1 course). Prerequisites: courses 226A, 226B, 226C. 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 (1/2 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.

293. Research Tutorial in Solid Earth Physics (1/2 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.

294. Research Tutorial in Experimental Elementary Particle Physics (1/2 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.

295. Research Tutorial in Nuclear Physics (1/2 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 (1/4 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 (1/4 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 (1/2 to 3 courses). May be repeated for credit. S/U grading.


598. Master's Thesis Research and Writing (1/2 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. Baernwald, 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 des 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 Slisson, 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. Engelbart, M.P.A., Ph.D., Emeritus
David G. Farrally, 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. Snowless, 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 110 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.

(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 only once, provided you receive a grade of qualified in one field and not qualified or marginal in the sec-
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.
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 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 formulation of American foreign policy with respect to individual states. Specific topics are announced in the Schedule of Classes each quarter.
   Mr. Jabber

122. Modern Arms Policy. 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 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 the effects of Communist doctrine affecting relations between the Soviet and democratic spheres.
   Mr. Cattel, 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, Norwegian and Gulf Arab relations.
   Mr. Jabber
   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. Relations of China with its neighbors and the other powers, with emphasis on contemporary interests and policies of China vis-a-vis the United States and the Soviet Union.
   Mr. Baumn

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 and contemporary problems.
   Mr. Krasner, Mr. Stein

138A-138B-138C. Defense Studies:
   Mr. Ries

139A-139B. Special Studies in International Relations. Prerequisites: two courses in Field II, or course 2 and one course in Field I, 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.

Field III: Politics

M140. Political Psychology. (Same as Psychology M138.) Prerequisite: Psychology M103. Examination of the processes of political behavior, 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. Petrock

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 impact of organization, leadership, and politics of such groups to the goals and functions of various types of groups and to the strategy and tactics of influence.
   Mr. 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. Snowless

144. The American Presidency. A study of the nature and problems of presidential leadership, emphasizing the impact of the bureaucracy, congress, public opinion, interest groups, and the party system upon the presidency and national policy making.
   Mr. Orren, Mr. Snowless

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, party activists, political finance, and policy formulation practices.
   Mr. Brown, Mr. Marvick, Mr. Petrock

146. Political Behavior Analysis. Prerequisite: course 141. The use of quantitative methods in political analysis, especially in relation to voting patterns, political participation, and techniques of political action.
   Mr. Brown, Mr. Marvick, Mr. Petrock

M147. Minority Group Politics. (Formerly numbered 147) (Same as Chicano Studies M147.) Lecture, three hours; discussion, one hour. Prerequisites: course 1 plus one of the following: one additional 140-level course or one upper division course on race or ethnicity from history, psychology, or sociology, or consent of instructor. A systematic evaluation of the functioning of the American polity related to problems of race and ethnicity. Topics include leadership, organization, ideology, conflict, and interactional politics, especially inter-minority relations, cooperation, symbolism, and repression.
   Mr. Rocco
Field IV: Comparative Government

152. British Government. The government and politics of the United Kingdom; the British constitution, parliament, parties and elections, foreign policy, administrative problems, and local governments.

Mr. Friedman

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. Kolkowcz, 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

158. 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

159. Japanese Government and Politics. The structure and operation of the contemporary Japanese political system, with special attention to domestic political forces and problems.

Mr. Baerwald


162. Government and Politics in South Asia. A comparative study of political change and the development and performance of public institutions in South Asia, with special emphasis on India, Pakistan, and Bangladesh.

Mr. Sisson

163A. Government and Politics in Latin America. A comparative study of governmental, political development, organization, and practices in the states of Middle America.

Mr. Gonzalez


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


Mr. Jabber, Mr. Weisweiler

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; English of the 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. Hollis

172A. American Constitutional Law. Prerequisite: course 170. Constitutional questions concerning the separation of powers, federalism, and the relationship between government and property.

Mr. Gerstein

172B. American Constitutional Law. Prerequisite: course 171. The protection of civil and political rights and liberties under the constitution.

Mr. Gerstein, Mr. Hobbs

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 to the demands of the public in the United States and remain relevant today.

Mr. Fried

182A. Metropolitan Area Government and Politics. An overview of the political and social organization of urban making processes, their policy outputs, and conflicts of metropolitan areas and their central cities and suburbs. Attention is also given to the impact of these areas on the national and state political systems and racial, ethnic, and protest movements. May be applied toward either Field III or V.

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 placed on participation in governmental 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 of international personnel and of methods of financing.

185. Public Personnel Administration. The process of formulating and administering public personnel policies; concepts and principles utilized in select government 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 bureaucratic structure. 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. Mr. Fried

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 IB 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, 129, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

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. Hoffman

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. Hoffman

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.

198. Readings in Political Science (1½ 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 C197. 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.

210. American Foreign Policy. An analysis of the central problems of political inquiry and their relation to political philosophy.

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 political field will ordinarily have completed these courses before the examination sequence.

214A. Political Parties and the Electoral Process. Mr. Brown, Mr. Marvick, Mr. Petrock

214B. American Political Institutions. Mr. Orren, Mr. Skowronak, 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.

216. Public Law. A systematic analysis of the scope and nature of public law, with particular attention given to its major substantive areas as illustrated in concepts and doctrines drawn from a variety of its subject fields. May be concurrently scheduled with course C197E.

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 to the study of organizations, with emphasis given to public and 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. Rees

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 the nature of the political system and its 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 219B.

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

224B. Political Recruitment. A critical evaluation of the literature concerned with the backgrounds of public figures and with the screening and sponsoring mechanisms affecting their careers and political perspectives. May be concurrently scheduled with course C197C.

224C. Politics and Society. The application of selected concepts of modern sociological theory to politics. May be concurrently scheduled with course C197C. Ms. Orren, Mr. Skowronak

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

224E. 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

224F. Executive Politics and the Presidency. An analysis of executive organization and leadership, with emphasis on the American Presidency. Special attention to theories of organization and personality and the relationship between the executive and other institutions and groups. May be concurrently scheduled with course C197C. Mr. Engelbert, Mr. Marvick, Mr. Snowiss

224G. Political Psychology (Same as Psychology M228). Discussion, three hours. Prerequisites: Psychology 220A-220B or consent of instructor. Examination of the psychological processes involved in social issues, 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. Petrock

C224L. 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. Petrock

Z28A. Personnel and Human Relations. An analysis of the policies, processes, organizations, and interrelationships involved in managing 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

Z28C. 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, interrelationships, and organization of governments in heavily populated areas. May be concurrently scheduled with course C197F.

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 128A (not a prerequisite). May be concurrently scheduled with course C197B. Mr. Kolkowicz

C231C. 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. Steen, Mr. Williamson

C232. 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.

C233. Selected Topics in Comparative Politics. A critical examination of a major problem in comparative politics.

C236A-C236B. 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:

C236A. 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.

C236B. Prerequisite: course 236A or consent of instructor. A research seminar devoted to the analysis of particular problems and institutions. Mr. Sisson, Mr. Snowsill

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 Gavini 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.

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.

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.

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. Lohchie, Mr. Sklar

C250F. Middle Eastern Studies. May be concurrently scheduled with course C197D.

C250G. 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.


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.

C256A-C256B. Seminar in Comparative Government. Course 256A is prerequisite to 256B.

C257A-C257B. Seminar in Political Theory (1 course each). Discussion, three hours. In Progress grading. Mr. Ashcraft

C259. 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.

240A-240B. 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 issues as policy evaluation, policy issues, mandated and nonmandated public functions, program and management organization; budget and financial performance measures; information systems; evaluation of outcomes; political impact analysis; and related problems in administrative decision making.

375. Teaching Apprentice Practicum (1/4 to 1 course). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprentice spends a semester in 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.

485. Teaching Political Science. A workshop in teaching political science. An 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 (1/2 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 of and writing of the research design for the Ph.D. dissertation. May be repeated by consent of research adviser and graduate adviser.
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.
Manly B. Brewster, Ph.D.
William E. Broen, Jr., Ph.D.
L. Anne Peplau, Ph.D.

Associate Professors
Felice Castro, Ph.D.
Christina A. Dunkel-Schetter, Ph.D.
Halford H. Fairchild, Ph.D.
Ralph E. Geasman, 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. Morel, Ph.D.
D. Dean Richards, Ph.D.

Assistant Professors
Milton E. Hahn, Ph.D.
F. Nowell Jones, Ph.D.
George F. J. Lehner, Ph.D.
Donald B. Lindsley, Ph.D., Sc.D.
Jesse L. Ruhlman, Ed.D.
Eliott H. Rodnick, Ph.D.
John P. Seward, Ph.D.

Scope and Objectives
We all practice some form of intuitive psychology to understand ourselves and the world around us. In contrast, the psychology curriculum at UCLA focuses on psychology as a scientific discipline 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 in each course: 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 10G (recommended) or Engineering 10C or 10F; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 10 or 3A or 8A; Psychology 10, 121, 132B

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; Psychobiology 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.

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 Lancaster 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 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 296; one course chosen from 200B, 242, 243, 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, 239, 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, 2223, and 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 psychosocial 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 ethnic identity, 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 (4 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 grade 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 analysis of human conditioning; retention and transfer of learning; 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.


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. Alcoholicism. 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 psychology 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 functions; drugs as tools to investigate various behavior processes such as mood, aggression, learning, and motivation. Experimental and behavioral drives such as reproductive behavior will be emphasized.

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 literature on their own. 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 interested in a systematic overview of common forms of behavioral plasticity and standard training procedures in laboratory animals (in behavioral, neuropsychiological, 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 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, 110 (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, considering topics in language 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 perception, production, and comprehension; errors in speech perception and production; speech physiology and pathology.

124A. Current Topics in Perception. Prerequisite: course 115 or current psychology major. Advanced topics in 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 with special attention to the interrelationships of personality and situational variables. 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, memory and their implications 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 sexual personality.

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 1 1/2 courses). Lecture, three hours. Prerequisites: courses 10 and upper division standing. Exploration of different orientations to persons with learning problems, emphasizing assessment and intervention approaches and the psychological factors underlying the learning disorders. Such approaches 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 two units (fifth unit option) (90 practicum experiences involving the Fernand 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 Fernand 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. Prerequisites: course 130. An examination of the cognitive, affective, and physiological development of the adolescent.

133B. Exceptional Children. Formerly numbered 133B. Same as Psychiatry M133B. Prerequisite: course 130. Study of the issues and research problems concerning mental retardation, giftedness, learning disabilities, emotional disorders, and child psychosis.

133C. Psychological Development in the Adult Year. Prerequisite: course 130 or consent of instructor. Theory and research on changes in adult abilities and attributes as related to genetics, age, sex, and sociocultural variables.

133D. Current Issues in Developmental Psychology. Prerequisite: 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 for credit 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 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 social influences upon attitudes, attraction, perception, and behavior. The development and changes of attitudes and opinions. Psychological analysis of small groups, social stratification, and mass psychology.

135A. 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.

135B. 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 135A.

137A. Personality Behavior. Lecture, three hours. Prerequisites: courses 10, 135, 135A. Psychology of interdependence, group membership, leadership, and social influence.

137B. Attitude Formation and Change. Lecture, three hours. Prerequisites: courses 10, 135, 135A. 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. The course determines what areas of work behavior of men and women, including 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 130. 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 in class.

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.


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 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 more standing. The principles of biological science are developed in an engineering context. Emphasis is on how physiological, psychological, and sociological factors influence 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 M112E. Prerequisites: consent of instructor. Field observation of behaviors 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 role of values in the study of personality, society, and culture.

M153. Death and Suicide: Psychological and Sociological Aspects. (Same as Sociology M158) Prerequisite: junior standing. The definition and taxonomy of death and suicide; theoretical models 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 concept of dying; human response to death; the impact of dying on the social structure surrounding the individual; preventive, interventional, 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) Prerequisite: lower division psychology 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 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 the experimental analysis of behavior; 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, reading disorders, etc. May be repeated 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 to be considered. The impact of economic and ethnic group. 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 of 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 comparative technique 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. Prerequisites: courses 10, 41, 127, psychology major standing, and consent of instructor. 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 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 41, 10, and 127 or 130. Corequisites: courses M181A-M181B. Limited to Immersion Program students. Prerequisites: Introduction to 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 study. Prerequisites: Psychopathological concepts and intraindividual and interpersonal characteristics of rate of situations, and personality variables that are relevant to theory. Residential, therapeutic, work, and recreational environments will be considered within a unified framework.


M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychiatry M182A) Prerequisite: course M182B. 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 provided.

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 presentation 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 standing and satisfactory performance in 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 research setting), seven hours. Prerequisites: sophomore pre-psychology or psychology major standing and departmental 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 departmental consent. 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 toward a degree. Practical applications of psychology may not be applied toward the psychology major. May not be applied as an elective toward the psychology major.

195. 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 completion of the research project. 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 toward a degree. Practical applications of psychology may not be applied toward the psychology major.

196. Internship in Psychology. To be arranged with individual faculty members. Prerequisites: senior psychology major standing or junior psychology major standing. May be repeated for credit by 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 psychology 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 establishment 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. Psychology of Attention and Learning. The study of research and theories concerned with the psychology of attention and learning primarily in humans. Concepts and areas include the orienting reflex, dominant focus, classical conditioning, and their implications for the psychophysiology of psychopathology and psychotherapy. Mr. Malitzman

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. Krane

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 (1/2 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. Bartholomew

219. Special Problems in Industrial Psychology. Mr. Bartholomew

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 attitudes and beliefs. 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. Role structure, group roles, group functioning. Mr. Kelley, Mr. Raven

C223. Survey Research in Psychology. A critical review of the theory and practice of large-scale sampling and survey techniques in psychology, including statistical aspects, 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 (1/2 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 equivalent. Focuses on 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 on illness care. Mr. Taylor

M228. Seminar in Political Psychology. (Same as Political Science M224G.) Discussion, three hours. Prerequisites: courses 220A-220B or consent of instructor. Mr. Thorton, Mr. Lind, Mr. Krasne

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 development, and the impact of emotional clarity on these issues. Mr. Sears


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 sex construction, scale development, physiological and endocrinological implications, radio-immunoassay (measuring hormones in blood sample), ethological and methodological considerations and 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 research in environmental psychology designed to identify basic dimensions for the analysis of man-environment relationships. The framework of analysis uses human emotional responses to environmental stimuli. The analysis is intended to explain specificities and universal qualities to a variety of approach-avoidance behaviors. Individual differences and drug-induced states as these relate to the emotional response dimension are examined. The emphasis is on the differences in response to the same environment over time or between-individual differences to the same situation. Review of literature relating information on arousal and preference for 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-concept, motivational styles) and concerns such as persistence and intensity of behavior. Perceived causes of outcomes in achievement and affective 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. Mr. 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. Mr. Nakamura

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.

244. Critical Problems in Developmental Psychology. Prerequisites: course 240 or equivalent and consent of instructor. Seminar in Developmental Psychology. The content and scope of this seminar will depend upon the interest of the class and 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. Mr. Festuch, Mr. 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, treatment, prevention, assessment, modern and future developments, and input from other disciplines (ethics, law, religion, welfare studies). Mr. Tymchuk

247B. Prerequisite: course 247A or consent of instructor. Topics in human problem solving, information processing, 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 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


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. Goldman


256. Seminar in Critical Problems in Psychological Measurement. Critical examination of issues in the major approaches to psychological measurement, relation of psychological measurement 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 factor analysis and structural equations 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, queuing 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. Consider 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. Mr. 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, 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. Mr. MacKay

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 mediation of mental disorders 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. Mr. Meichenbaum, Mr. Flaxbeard

271A-271B-271C. Clinical Psychological Methods (1 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 consent of instructor. 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. Mr. Wickens

272C. Clinical Interventions for Psychological Problems of Children. Mr. Wenzel

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 for a variety 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 conducting an interpersonal exchange 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 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

276. Clinical Approaches to Children with Learning and Related Behavior Problems. (Formerly numbered 276A-276E.) Lecture, three hours; discussion, one hour. Prerequisite: doctoral standing. The focus is on theoretical and research issues and problems related to purposes and practices involved in assessment and correction approaches for children with learning and behavior problems. Practice 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. Mr. Lipps

280. Seminar in Behavior Therapy. Mr. Lovas

282. Interpersonal Forms Analysis of Human Interaction Structures. Conceptual and experimental study of response modalities common to psychotherapy and everyday interaction; questions, silences, agreements, interpretation, self-disclosures, and reflection. Laboratory work will be performed in conjunction with lecture and seminar sessions. Mr. Goodman

283. Psychopathology. A survey of the dominant psychopathological 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. Mr. Sheehan
288. 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.

Mr. Maitz

290. History of Psychology. Philosophical and historical context of contemporary psychology. Major trends from the 19th century to contemporary issues will be considered.

Mr. Maitz

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. Maitz

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 under way, 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. S/U grading.

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
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 graduate chair. Study or research in areas or on subject 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 Formal 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
206A-206B. Seminar in Indo-European Linguistics
Italian Dialects: Latin 242. Italic Dialects and Latin Historical Grammar
Italian-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 Classicalism
204B. Syntax and Semantics from Vulgar Latin to French Classicalism
Paleography: History 219A. Paleography I
219B. Paleography II
Romance Dialectology: Italian 259C. Italian Dialectology
Spanish 259. 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 Galician-Portuguese and Old Spanish
Italo-Romance: Italian 210A. Early Italian Literature: The Origins of Italian Language and Early Texts
255A-255B-255C. Studies in the History of Italian Language

Synchronic Linguistics
Advanced Grammar: French 201A. Theme 201B. Version
201C. La Dissertation Francaise
201D. Problems of French Literary Composition
206. French Linguistics
Italian 259B. The Structure of Modern Italian
Portuguese 204A-204B. Transformational Grammar
Portuguese 204A-204B. Transformational Grammar
206. 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
255A-255B. 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 250A-250B. Studies in Philosophy and Literature

Early Romance Literature
Petrarch: Italian 214D. Italian Literature of the 14th Century: Petrarch
251. Seminar on Petrarch
Studies in Early Romance Literature: French 215E-215E. The Medieval Language and Literature
255A-255B. 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
255A-255B. Seminar on the 18th Century
Portuguese C242C. 18th- and 19th-Century Literature
2543. 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

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
2543. 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

221A-221D. French-African Literature
256A-256B. Studies in Contemporary Literature
257A-257B. Studies in French-American Literature
Italian 220A-220B-220C. Italian Literature of the 20th Century
258A-258B. Seminar on Contemporary Italian Literature
Portuguese C242D. Contemporary Portuguese Literature
243. Contemporary Brazilian Literature
2543. Contemporary Spanish Drama
2543. Contemporary Spanish Poetry
245. The Modernist Movement
243. Contemporary Spanish American Poetry
244. C. 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-217. 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. 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
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 Professors
Gregory Olson, M.B.A., Major

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 re- tainer fee for 20 consecutive months.

Freshman Year Courses

1A-1B-1C. U.S. Military Forces in the Contemporary World (1 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 (1 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 (4 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.

140A. Military Judicial System (4 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.

140B. The Military in American Society (4 course). Seminar. Prerequisite: course 140A. Examines the functions 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.

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. Wentrock, M.A., Major

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. Wentrock, 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 commission through the ROTC program. 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.

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


11A. Comparative U.S. and Soviet Defense Systems (1/2 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.


13. Theory of Warfare (1/2 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 (1/4 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.

14. Leadership and Management Assessment (1/2 course). Designed to assess student leadership and management potential in twelve behavioral dimensions and to provide training for students with a view which to further develop specific leadership and management skills.

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.

16. War and Morality (1/2 course). Lecture, one hour: discussion, one hour. The moral/immoral aspects of armed conflict, just and unjust conflict, and war and murder. Maj. Olson

21. United States Military History (1/2 course). A study 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.

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


11A. Comparative U.S. and Soviet Defense Systems (1/2 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.


13. Theory of Warfare (1/2 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 (1/4 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.

14. Leadership and Management Assessment (1/2 course). Designed to assess student leadership and management potential in twelve behavioral dimensions and to provide training for students with a view which to further develop specific leadership and management skills.

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.

16. War and Morality (1/2 course). Lecture, one hour: discussion, one hour. The moral/immoral aspects of armed conflict, just and unjust conflict, and war and murder. Maj. Olson

21. United States Military History (1/2 course). A study 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.

11A. Modern Strategic Thought (1/4 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 historical and military 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.

22. United States Military History (1/2 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.

Upper Division Courses

11A. Modern Strategic Thought (1/4 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.

12. The Psychology of Leadership II (1/4 course). Prerequisite for cadets: completion of Basic Course or equivalent; for noncadets: upper division standing. Introduction to individual leadership styles and personalities and 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.

13. Theory of Learning Applied to Teaching (1/2 course). Prerequisites: for cadets: completion of Basic Course or equivalent; for noncadets: upper division standing. An introduction to learning theories and their applications. The role of the teacher in classroom management is also examined.

12A. U.S. and Soviet Defense Organizations (1/2 course). Introduction to U.S. and Soviet 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

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.
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, Adjunct

Assistant Professors
Robert M. Dailey, M.B.A., Lieutenant Commander, U.S. Navy, Adjunct
Richard N. Daniel, B.S., Lieutenant, U.S. Navy, Adjunct

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, Adjunct

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 expenses, 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
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 (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 weapon systems, with emphasis on target designation and acquisition, methods of solving fire control problems and target detection systems. Analysis of transfer and feedback functions inherent in weapon systems. Lt. Daniel

Slavic Languages and Literature
115 Kinsey Hall, 825-2676

Professors
Aleksandar Albijanic, Ph.D. (South Slavic Languages and Literatures)
Henrik Birnbaum, Ph.D. (European Archaeology)
Thomas Eekman, Ph.D. (Slavic Languages)
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)
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


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, 118, 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


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.

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)
Literature students must take 12 courses (36 units), of which five (20 units) must be graduate courses, including Russian 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.


223. Introduction to South Slavic Languages. Lecture, three hours. Prerequisite: course 202. Recommended: Serbo-Croatian 103A-103B-103C or Bulgarian 103A-103B-103C. Required for the Ph.D. (linguistics). Introduction to the structure and history of the South Slavic languages.

224. Introduction to Ukrainian and Belorussian. Lecture, three hours. Prerequisite: course 202. Introduction to the history and structure of Ukrainian and Belorussian.

241A-241B. Advanced Old Church Slavic. Lecture, three hours. Prerequisite: course 201. 241A. Advanced Readings in Canonical Texts; 241B. East, West, and South Slavic Recensions of Church Slavic.

251. Introduction to Baltic Linguistics. Lecture, three hours. Prerequisite: course 202. Introduction to Baltic linguistics, with special attention to the relationship between Baltic and Slavic.

252. Slavic Paleography. Lecture, three hours. Prerequisite: course 201. Introduction to Slavic paleography: inscriptions, birch bark letters, Glagolitic and Cyrillic texts.

262A-262B. West Slavic Linguistics. Lecture, three hours. Prerequisite: course 222. Lekhich.; 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

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 language 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 (1/4 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 (1/2 to 2 courses). Prerequisite: consent of instructor and graduate adviser.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (1/2 to 2 courses). Prerequisite: consent of instructor and graduate adviser.

599. Research for Ph.D. Dissertation (1/2 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 (1/2 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 (1/2 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 of simultaneous enrollment in all courses lower in the sequence.


102A-102B-102C. Advanced Grammar and Reading (1/2 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 (1/4 course each). Recitation, two hours. Prerequisites: course 111C or consent of instructor. Required of majors. Conversation and composition. Conducted in Russian.

112A-112B-112C. Advanced Conversation and Composition (1/4 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 tonalism 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. Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.

119. Survey of 19th-Century Russian Literature. Lecture, three hours. Lectures and readings in English. The following writers will be alternately discussed: 122A. Pushkin; 122B. Gogol; 122C. Turgenev; 122D. Dostoevsky; 122E. Tolstoy; 122F. Chekhov.

125. The Russian Novel in its European Setting. Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.

120. Survey of 20th-Century Russian Literature. Lecture, three hours. Lectures and readings in English. The following novelists will be discussed: 124A. Pushkin; 124B. Gogol; 124C. Turgenev; 124D. Dos- toevsky; 124E. Tolstoy; 124F. Chekhov.

124A-124F. Studies in Russian Literature. Lecture, three hours. Lectures and readings in English. The following novelists will be discussed: 124A. Pushkin; 124B. Gogol; 124C. Turgenev; 124D. Dostoevsky; 124E. Tolstoy; 124F. Chekhov.

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 Precur-sors of the 18th Century; 130C. From Late-18th Century through Contemporary Soviet Verse.

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.


210. Readings in Russian Historical Texts. Lecture, three hours. Prerequisites: courses 123, Slavic 201 or consent of instructor. Readings in early Russian chronicles and other documents of historical interest.

211. 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.


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.


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 Russian Literature. Seminar, three hours. Prerequisites: 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.

Non-Slavic Languages of Eastern Europe

Lithuanian

Upper Division Courses


Romanian

Lower Division Course

99. Introduction to Romanian Civilization. Lecture, three hours. An introductory survey of the social and cultural institutions of the Romanian people and their historical background.

Upper Division Courses


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


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 113A. 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.

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.
Warren D. TenHouten, Ph.D.
Melvin Oliver, Ph.D.
Melvin Seeman, Ph.D.
Georges Sabagh, Ph.D.
Oscar Grusky, Ph.D.
C. Wayne Gordon, Ph.D.
Ralph H. Turner, Ph.D.
Gene N. Levine, Ph.D.
Harry H. L. Kitano, Ph.D.
Ivan H. Light, Ph.D.
Joshua M. Lewis, Ph.D.
Jerome Rabow, Ph.D.
Julia C. Wrigley, Ph.D.
Phillip Bonacich, Ph.D.
Rodolfo Alvarez, Ph.D.

Associate Professors
Kenneth D. Bailey, Ph.D.
Robert E. 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.
Warren D. TenHouten, Ph.D.
Donald J. Treiman, Ph.D.
Ralph H. Turner, Ph.D.
Maurice Zeitlin, Ph.D.
Ivan H. Light, Ph.D.
Jerome Rabow, 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 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; ethnography (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 211B.

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 211B) 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 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. Prerequisites or corequisites: 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 course 101). A study of selected current topics of sociological interest. See Schedule of Classes for topics and instructors.

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 evaluation of studies, conceptual analysis of case material). Fieldwork may be required.

110. Research Methods in Policy Analysis and Evaluation. Prerequisites: 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.

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.

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.

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.

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.

116. Introduction to Mathematical Sociology. Prerequisites: course 18, Mathematics 24A (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).

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.

118. Statistical and Computer Methods for Social Research. Lecture, three hours; laboratory, one hour. Prerequisites: 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.

120. Social Change. A study of patterns of social change, resistance to change, and change-producing agencies and processes.

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.

122. Mass Communications. Lecture, three hours. Fieldwork may be required. Development, functions, and organization of the mass media in industrialized societies; social theory and 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.

123. Social Stratification. 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 the stratified groups, and status mobility; the consequences of stratification, and problems of methodology.

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 Jamaican, Caribbean, and other areas.

125. Urban Sociology. Lecture, three hours. Description and analysis of urbanization and urbanism in the United States and the world.


127. Sociology of Family Demographic and Economic Behavior. An examination of demographic behavior associated with the social organization of the family and its role in the societys 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. Nolin, 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


Mr. Lopez, Mr. Zeitzlin

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. Zeitzlin

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 situations.

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 various nonnationalized indigenous traditions.

Mr. Sabagh

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

135. 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. Zeitzlin

136. 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 the relationship 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

137. 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 basis of power.

Mr. Prager, Mr. Roy, Mr. Zeitzlin

141. Economy and Society. The sociology of economic life, with emphasis upon principal economic institutions of the United States.

Mr. Light, Mr. Lo, Mr. Zeitzlin

142. Sociology of the Family. Theory and research dealing with the modern family, its structure, and functions, including historical changes, variant family patterns, family as an institution, and the influence of the contemporary society on the family.

Mr. Bonachich, Mr. Rabow, Ms. Zucker

143. 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 organizational aspects to 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 pattern 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; the integration of the individual, preventive, intervention, and postventive practices in relation to death and suicide; partial death; megadeath; lethality; the psychological autopsy; the death of institutions and cultural death. A prerequisite recommended (letter grade is required if course is to be applied toward the psychology major).

Mr. Emerson, Mr. Goldstein, Mr. Poliner

156. 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 relative to death; the impact of death on the personality of the individual; 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; the integration of the individual, preventive, intervention, and postventive practices in relation to death and suicide; partial death; megadeath; lethality; the psychological autopsy; the death of institutions and cultural death. A prerequisite recommended (letter grade is required if course is to be applied toward the psychology major).

Mr. Emerson, Mr. TenHouten

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. Poliner

158. Comparative Social Institutions of East Asia. A survey of the contributions of sociologists to theory and research in social psychology, including theories of social control; conformity and deviation; reference groups; and interaction processes.

Mr. Bonachich, Mr. Rabow, Ms. Zucker

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. Poliner, 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.

Mr. 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 the role of 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
183. Medical Sociology. Prerequisite: course 1 or 101 or consent of instructor. The course provides ma-
jors in sociology and other social sciences as well as students preparing for health science careers, with an understanding of health-seeking behavior and the inter-
personal and organizational relations that are in-
volved in the receipt and delivery of health services.
Mr. Greenman, Mr. Goldstein

187. Undergraduate Seminar. (Formerly numbered 181-186.) Prerequisites: upper division standing, ma-
jor in sociology, and consent of instructor.

199. Special Studies (½ to 2 courses). Prerequisites:
senior standing, 3.0 grade-point average in major-
courses; and consent of instructor. Students who (1) desire to do significant or specialized-
treatment of an area covered in the regular course list and who present that course as a prerequi-
site or (2) desire to work in an area of sociological analy-
isis currently not covered by a upper division course. Only eight units are allowed. See undergraduate counselor for course content.

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, de-
tailed bibliography, and regular meetings with the faculty chairman 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 prerequi-
site or (2) desire work in an area of sociological analy-
isis currently not covered by an upper division course. Only eight units are allowed. See undergraduate counselor for course content.

201A-210B. Intermediate Quantitative Methods I, II. Prerequisite: course 18 or equivalent. An interme-
te level treatment of fundamentals of statistical theory and probability theory; basic dis-
tributions (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 vari-
ance 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 tech-
niques and measures; matrix algebra if used in cover-
age of listed topics. In Progress grading.
Mr. Bonach, Mr. McFarland, Mr. TenHouten

210C. Intermediate Quantitative Methods I - 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. Bonach

211A-211B. Comparative and Historical Methods. In Progress grading.

211A. Strategies of Research and Conceptualization. Prerequisite: consent of instructor. Topics include rel-
ationship of theory and fact to the social sciences, the logic of comparative and historical analysis, and substantive prize. A comparative and historical analysis of problems involves methodological examina-
tion of basic methods in representative problem areas.

211B. Research Techniques. Prerequisite: course 211A. Topics include the problem of evidence, quanti-
itative and qualitative data. Techniques include use of encounters, 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 of the
classical Marxist 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 research.

Mr. Horton

213A-213B. Techniques of Demographic and Eco-
logical Analysis. Prerequisite: course 210A or equivalent. Procedures and techniques for the collec-
tion, analysis, and interpretation 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 include course 210A and consent of instructor. Theory and technique of mea-
urement in sociology and social psychology; construc-
tion, application, and evaluation of measurement
 techniques, especially the forms of scaling. In Progress grading.
Mr. TenHouten

215A-215B. Experimental Sociology. Prerequi-
sites: course 210A or equivalent and consent of in-
structor. A course designed to provide students with the research fundamentals of the sociological method, particularly as it is used in social psychology. In Progress grading.
Mr. Grusky, Mr. Rabow, Mr. Shure

216A-216B. Survey and Research Methods. Course in
methodology and technical formulation of research problem; study design; hypotheses; sampling; mea-
urement; questionnaire and schedule construction; interviewing and data collection; processing of data; analysis and interpretation; presentation of findings; cross-national, replicative, panel, and other complex survey designs. Students participate in sur-
vey research project. In Progress grading.

Mr. Levine, Mr. Treiman

217A-217B. Ethnographic Fieldwork. Prerequi-
site: consent of instructor. Theories and techniques of ethnographic fieldwork. The course will consider the kinds of problems amenable to ethnographic ap-
proaches, words and techniques for doing field-
work, and ethnical problems involved in such re-
search. In Progress grading.

Mr. Emerson, Mr. Poliner

218A-218B. Ethnomethodological Methods. Prere-
quisite: consent of instructor. Examination of tech-
niques used in ethnomethodological research, prac-
tice in the critical evaluation of research, and directed experi-
elent use of the extended investiga-
tion employing ethnomethodological procedures. In Progress grading.
Mr. Garfinkel

219. Theory of Sociological Inquiry. Prerequisites:
course 210A and consent of instructor. A general re-
view of the procedures of scientific inquiry in the student's attempts to achieve valid theoretical knowledge. Fo-
cuses on inductive inference and theory testing; con-
trol and randomization, experimental and nonexperi-
mental research design, 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 the social roles individuals play in society, with special em-
phasis on roles in social interaction and in formation of the 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 ap-
proaches to both microecology and macroecology, including classical and neoclassical ecology, social
area analysis, sociocultural ecology, city soci-
tecture, and urban areas, nonhuman animals and humans, proxemics, territoriality, and the effects of the physical environment on humans.
Mr. Bailey

224A-224B. Problems in Social Psychology. Prere-
quisites: course 210A and consent of instructor. The basic course for graduate students intending to specialize in social psychology. 224A examines sys-
tematically 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 in-
structor. 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 sys-
tems, and changes in them, affect demographic variables; and (3) how this two-way process influ-
ences 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 class-
room reports of results.
Ms. Oppenheimer

226. Leadership and Comparative Social Struc-
ture. A comparative analysis of leadership in different social structures, with particular attention to the de-
velopment, maintenance, and disintegration of lead-
ership 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 determin-
ants of systems of knowledge and the role of intellec-
tual 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. Specifi-
cally included are institutional issues, informal social control mechanisms, the relationship between in-
formal and formal control systems, typification and
practical concerns in the processing of social control causes, and problems of "rationality" in social control decision making.
Mr. Emerson

230. Theories of Deviance. An examination of vari-
sious sociological approaches to the study of deviant behavior, with emphasis on anomie theory as the ma-
jor 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 pre-
paring people for occupations.
Mr. O'Shea, Mr. Wingley

233. Foundations of Political Sociology. Lecture, three hours. Prerequisite: graduate standing or con-
sent of instructor. A survey of the field of political sociology, oriented around critical theories in the re-
centor theoretical traditions and contemporary exem-
plars. Special attention is paid to competing perspec-
tives on power, the theory of the state, and the rela-
tionship of class structure to politics.
Mr. Lo, Mr. Prager, Mr. Roy

234. Sociology of Community Organization. Prere-
quisites: graduate standing and consent of instructor. A survey of recent and classical research and
literature dealing with predominantly political institu-
tions, the problem of order, and the organization of communal life in the village and the metropolis.

235. Social Structure and Social Movements. Prere-
quisite: graduate standing or consent of instructor. A survey of some social science theories bearing on the
structure of organizations, social movements, trans-
formation of 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 emergence of societies of large scale and their distinctive structural characteristics. Mr. Sabagh 237A-237B. 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 health-related 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-related enterprises. Attention is given to the meaning of professionalization and professional-client relationships within a range of organization settings. Mr. Goldstein M249B. Socio-cultural 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. Berkovitch 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. 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 and contemporary sociological theory and in the history of the development of sociological thought. Mr. Prager 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. Surace 266. Selected Problems in the Analysis of Conversation. Prerequisite: course 144A or consent of instructor. Mr. Schegloff 267. Selected Problems in Communication. Mr. Poliner, 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. Mr. Seeman 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 278. 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 enviroring 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 and evaluating 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. Prerequisites: 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. Poliner 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 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. Mr. 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. Research Development. 375. Teaching Apprentice Practicum (1/4 to 1 course). Prerequisite: apprentice personnel employment in Health Professions, or consent of instructor. 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. Ms. Slack 495A-495B. Supervised Teaching of Sociology (1 course each). Prerequisite: appointment as a teaching assistant in the Department of Sociology or equivalent. A special course for teaching assistants designed to acquaint them with the techniques of teaching introductory sociology. S/U grading. 501. Cooperative Program (1/2 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. 502. Directed Individual Study and Research in Sociology (1/2 to 3 courses). 507. Individual Study for Examinations (1 to 3 courses). Preparation for the dossier for the M.A. degree or the Ph.D. qualifying examination. 509. Research in Sociology for Ph.D. Candidates (1 to 3 courses).
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 Rodriguez-Cepeda, Ph.D. (Spanish)
A. John Skrius, Ph.D. (Spanish)
Pauúl 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 Lusophone 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 advisor’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 Brazilian 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.

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 preliminary seminar (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.

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.

2T. Elementary Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 1 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 selected readings of good authors.

3. Intermediate 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; imperative; impersonal constructions; subjunctive: present, imperfect; idioms. Vocabulary of about 400 items and idioms dealing with everyday experience and some selected readings of good authors.

4. Intermediate Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 3 or equivalent as determined by the placement test. Grammar review. Also, conditional; imperative and conditional; indicative vs. subjunctive; past perfect of subjunctive; imperative. 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. Grammar review. Also, conditional; imperative and conditional; indicative vs. subjunctive; past perfect of subjunctive; imperative. Vocabulary of about 400 items and idioms dealing with everyday experience and some literary pieces.

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. Prerequisite: 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 variation between the phonetic and graphemic systems. Exercises and drills directed toward individual needs.


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.

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.

118. 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.


120A-120B. Survey of Spanish Literature. Lecture, three hours. Prerequisite for Spanish majors: course 42. Required of Spanish majors (Plan A). An introduction to the principal authors, works, and movements of Spanish literature.

121A-121B. Spanish and Portuguese. (Same as Portuguese M121.) Lecture, three hours. Prerequisite for Spanish majors: course 44. Required of Spanish majors (Plan A). An introduction to the principal authors, works, and movements of Spanish American literature.

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.


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.

130. Spanish Literature from 1850 to 1896. Lecture, three hours. Recommended prerequisite: course 120B. The development of post-Romantic literature, with emphasis on representative works.

132A. Spanish Literature in the 20th Century: Poetry and Drama. Lecture, three hours. Recommended prerequisite: course 120B. Spanish poetry and theater since 1896, with emphasis on several representative works for each genre.

132B. Spanish Literature in the 20th Century: Fiction and the Essay. Lecture, three hours. Recommended prerequisite: course 120B. Spanish prose genres since 1896, with emphasis on representative novels, short stories, and essays.

137. The Literature of Colonial Spanish America. Lecture, three hours. Recommended prerequisite: course 120B. A study of the most important authors and movements in the various regions of Spanish America to 1810.

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.

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.

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.

142B. Spanish American Literature in the 20th Century: Fiction and the Essay. Lecture, three hours. Recommended prerequisite: course 121B. A study of the most important Spanish American prose genres since 1880, with representative novels, short stories, and essays.

145. Introduction to Chicano Literature. (Same as Chicano Studies M145.) Lecture, three hours. Prerequisite: course 25 or 26. Recommended prerequisite: 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 will be used 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.

149. Folk Literature of the Hispanic World. (Same as Folklore M149.) Lecture, three hours. A study of the history and present dissemination of the principal forms of folk literature throughout the Hispanic countries.

160A-160B-160C. Hispanic Literatures in Translation. Lecture, three hours. Open to student 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. (F)

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. (F)

199. Special Studies (½ to 1 course). Prerequisite: consent of advisor 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. Benitez, Mr. Rodriguez-Cepeda

M201. Literary Criticism. (Same as Portuguese M201.) Discussion, three hours. Definition and discussion of methods of literary criticism.

Mr. Benitez, Mr. Otero

M203A-M203B. The Development of the Portuguese and Spanish Languages. (Same as Portuguese M203A-M203B.) Prerequisites: courses 100, 215, 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, semantics, and phonology on style, metaphor, and meter.

Mr. Otero

205. Linguistics. Discussion, three hours. Prerequisite: course 100 or equivalent. A study of theoretical synchronic linguistics as applied to Spanish.

Mr. Otero, Ms. Piann

209. Dialectology. Discussion, three hours. Prerequisite: course 100 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. Otero

220. 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


Mr. Morris, Mr. Rodriguez-Cepeda

225. The Drama of the Golden Age. Seminar, three hours. Readings and lectures on the "comedia." Mr. Rodriguez-Cepeda

226. Prose of the Golden Age. Seminar, three hours. Readings and lectures on fictional, didactic, religious, and historical 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. Benitez


Mr. Benitez

232. The Generation of 1888. 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. Roe


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


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


Mr. Skirius


Mr. Luzuriaga

247. Chicano Literature. Lecture, three hours. Prerequisite: graduate standing, consent of instructor. A study of the major movements and authors of Mexican-American literature.

Mr. Hernandez

M249. Hispanic Folk Literature. (Same as Folklore M249 and Portuguese M249.) Seminar, three hours. Prerequisite: graduate standing, consent of instructor. An intensive study of folk literature as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech.

Ms. Arora, Mr. Roe

M251. Studies in Gallego-Portuguese and Old Spanish. (Same as Portuguese M251.) Seminar, two hours. Problems related to the historical development of Gallego-Portuguese and Old Spanish.

Mr. Otero, Mr. Smith


M258A. Studies in Linguistics. Prerequisite: course 206.

Mr. Otero

M260B. Studies in Dialectology. Prerequisite: course 206.

Mr. Roe

M262A-M262B. Studies in Medieval and Renaissance Literature. Seminar, two hours.

M262A. Lyric Poetry. Prerequisite: course 222.

Mr. Gimeno

M262B. Epic Poetry. Prerequisite: course 222.

Mr. Gimeno

M262C. Prose Writers. Prerequisite: course 223.

Mr. Gimeno


264A. Poetry. Prerequisite: course 224.

Mr. Johnson, Mr. Morris, Mr. Rodriguez-Cepeda

264B. The "Comedia." Prerequisite: course 225.

Mr. Johnson, Mr. Rodriguez-Cepeda


Mr. Johnson, Mr. Rodriguez-Cepeda

264D. Don Quijote. Prerequisite: course 227.

Mr. Johnson, Mr. Rodriguez-Cepeda

270A-270B. Studies in 18th- and 19th-Century Spanish Literature. Seminar, two hours.

270A. Poetry, Drama, and Prose. Prerequisite: course 230.

Mr. Benitez

270B. The Novel. Prerequisite: course 231.

Mr. Benitez, Mr. Smith


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 241.

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. Preparation of materials for the operation of the language laboratory. Ms. Arora, Mr. Roe

M286B. Narrative and Drama. Prerequisite: course 249.

Ms. Arora, Mr. Roe

M286C. Ballad, Poetry, and Speech. Prerequisite: course 249.

Ms. Arora, Mr. Roe

310. The Teaching of Spanish in the Elementary School. Lecture, three hours. Prerequisite: course 237.

310. The Teaching of Spanish in the Secondary School. Lecture, three hours. Prerequisite: course 237.

311. 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. Quicoli

405. 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 Sauss, Fucjani and Hamel, Barcia), and others. Teaching practice. Observation and discussion of selected classes. Lesson preparation and execution. Test construction.

Mr. Quicoli
Directed Individual Study or Research (1 to 2 courses). Prerequisite: consent of graduate adviser or Chair. Students in areas or subjects not offered as regular courses. No more than four units may be applied toward the M.A. course requirements.

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 only in the quarter that comprehensive or qualifying examinations are to be taken. 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.

4. 8A-8B. Portuguese Conversation (% course each). Discussion, three hours. Prerequisite: course 3 with a grade of B or better.

5. Advanced Portuguese. Prerequisite: course 3 or equivalent.

6. 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

7. 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. Reeves, Mr. Skrius

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 phonetic systems. Exercises and drills directed toward individual needs. Mr. Quicoli

101A. Advanced Reading and Conversation. Lecture, five hours. Reading and discussion of writings by modern Brazilian and Portuguese authors. Mr. Quicoli

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 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. Quicoli

104A-104B. History of the Portuguese and Spanish Languages. (Same as Spanish M118B.) Lecture, three hours. Prerequisite: course 100. Major topics in the history of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times; correlation of other languages to the formation of Portuguese and Spanish.

120A. Survey of Portuguese Literature. Lecture, three hours. First half of an introduction to the principal movements, authors, and works of Portuguese literature.

120B. Survey of Portuguese Literature. Lecture, three hours. Second half of an introduction to the principal movements, authors, and works of Portuguese literature.

121A. Survey of Brazilian Literature. Lecture, three hours. First half of an introduction to the principal movements, authors, and works of Brazilian literature.

121B. Survey of Brazilian Literature. Lecture, three hours. Second half of an introduction to the principal movements, authors, and works of Brazilian literature.

124. 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.

126. 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.

127. Colonial Brazilian Literature. Lecture, three hours. A study of the most important authors and literary currents to 1830. May be concurrently scheduled with course M243A.

128. 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 courses C242C and C243D.

129. Romanticism in Brazil. Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C243B.

135. Naturalism, Realism, and Parnassianism in Brazil. Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C243B.

136. Contemporary Portuguese Literature. Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C242D.

137. Contemporary Brazilian Literature. Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C243D.

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. Hulet

140B. Brazilian Literature. Class reading and analysis of selected works in translation. Classroom discussion, papers, and examinations will be in English. Ms. Arora, Mr. Robe

199. Special Studies (% to 1 course). Prerequisite: consent of instructor 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.

201. Literary Criticism. (Same as Spanish M201.) Discussion, three hours. Definition and discussion of methods of literary criticism.

203A-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.

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.

205. Portuguese Linguistics. Lecture, three hours. Prerequisite: consent of instructor. A study of theoretical synchronic linguistics of Portuguese.

206A. Special Topics in Portuguese Literature. Lecture, two hours. Prerequisite: consent of instructor.

242A. Medieval Portuguese Literature. May be concurrently scheduled with course C124. Mr. Dias

242B. Renaissance and Baroque Literature. May be concurrently scheduled with course C126. Mr. Hulet

242C. 18th- and 19th-Century Literature. May be concurrently scheduled with course C128. Mr. Dias

242D. Contemporary Portuguese Literature. May be concurrently scheduled with course C139. Mr. Dias

243A-C243D. Special Topics in Brazilian Literature. Lecture, two hours. Prerequisite: consent of instructor.

243A. Colonial Literature. May be concurrently scheduled with course C127. Mr. Hulet

243B. Romanticism in Brazil. May be concurrently scheduled with course C129. Mr. Hulet

243C. Naturalism, Realism, and Parnassianism. May be concurrently scheduled with course C135. Mr. Hulet

243D. Modern Brazilian Literature. May be concurrently scheduled with course C137. Mr. Hulet

249. 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.

M251. Studies in Galician-Portuguese and Old Spanish. (Same as Spanish M251.) Seminar, two hours. Prerequisites: courses M203A-M203B. Problems related to the historical development of Galician-Portuguese and Old Spanish.

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.
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
Eugene Dye, Ph.D.
Marie S. Gregory
Thomas E. Miller
Sonya H. Packer

2. Public Speaking and Discussion. Prerequisite: course 1. A continuation of course 1, with special emphasis on group discussions, panels, symposia, debates, and formal public speaking. Critical analysis of speeches in both contemporary and historical settings.

Upper Division Courses


144. Speech and Community Action. Prerequisite: consent of instructor. An intensive laboratory-based, observation-oriented study of speech and communication practices of action groups, protest groups, and public officials involved with the metropolitan Los Angeles urban crises.

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 are also examined.

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.

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.

216. 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.

Scope and Objectives

The UCLA major in the study of religion has a twofold purpose. In the first place it is designed to give students a broad humanistic perspective. It introduces students to several religious traditions and thus to an appreciation of the very nucleus of civilization in various periods of history and various parts of the world, as well as to an understanding of fundamental human orientations. In the second place, the program asks the student to select one particular religious tradition for study in greater depth. Coherence and integrity in the program are furthered by courses dealing with philosophical problems in religion and with general anthropological reflections. The program requires one year of language study which should be related to the major tradition of concern. This minimum requirement
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 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 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 honors theses.

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 Bolls 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)*

**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;
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 advisor.

Requirements for the Specialization
Students participating in this program are required to complete both a departmental major and the women's studies specialization. There are no lower division prerequisites. You must take two core courses (Women's Studies 100 and M197), plus six upper division courses from the "Supporting Courses" list. At least two of the six courses must be taken in departments other than the major department, and two may be experimental courses offered by the Council on Educational Development (CED).

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

M107. Women in Literature. (Same as English M107.) Prerequisite: satisfaction of Subject A requirement. A survey of literary works and about women, the course examines the definition 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. Yezzi.

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. 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. Ms. Levine.

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 Upper Division Courses

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.

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
Classics 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
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
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.
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.

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.
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 geographical); 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.

Humantities (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.


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, Islamsics 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, pro-seminars, 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 15 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 advisor, and petitions for adjustment should be submitted to the Dean of the college when necessary.

Any department offering a major in the College of Fine Arts may require a general final examination.

Scholarship and Minimum Progress
A 2.0 (C) average is required in all work attempted at the University of California, exclusive of courses in University Extension and those graded Passed/Not Passed. A C average is also required in all upper division courses in the major taken at the University, as well as in all courses applying to the general college and University requirements.

Minimum Progress: You are expected to complete satisfactorily at least 36 units during 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-
degree check sent to each student. Prior to registration and enrollment in classes, each new student is assigned to a counselor in the major department. For further counseling information, contact the Student Services Office, College of Fine Arts, A239 Murphy Hall (825-9705).

Graduate Study
The advanced degree programs offered in the College of Fine Arts provide graduate students with unique research opportunities when combined with special resources, such as the Film, 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 Action 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 Boine, 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)
Eliot J. Elgard, M.F.A. (Art)
Robert F. Heinieck, 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 History)
Emeritus Professors
Laura F. Anderson, M.A.
Alexander Badawy, D.I.A., Ph.D.
E. Maurice Bloch, Ph.D.
Archive V. Fatty, 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. Basler, M.A. (Design)
Irene A. Bienman, 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 Sunko, B.Ed., Emeritus

Assistant Professor
Edith A. Tonelli, Ph.D., Adjunct (Art History)

Visiting Lecturer
Jean S. Weiss, 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 of special interest are the arts in art and those who wish careers requiring art-related knowledge and in a specific sense for those who go on to careers as professional artists.

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
I which may include Classics 151B, 151C, college foreign language requirements. Area of concentration are to be selected. Courses do not apply as electives).

The Major

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.

Bachelor of Arts in Design

Master of Arts in Art History

Art 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 from the art 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.
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 an 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 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 IELTS score of 6.00 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 Egyptian, 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 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, six 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. 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. Ancient to Pre-Columbian. 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.


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 expression of design.

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.

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.

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.

33B. Materials and Processes: Visual Representation and Design. Demonstration, discussion, and laboratory, four hours. Demonstration of processes in design. Introduction to graphic presentation production. 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 images. Introduction to graphic presentation production. May be repeated once.

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.

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
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 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.

103B. Hellenistic Art. Lecture, three hours. Prerequisites: courses 50, 103A. The art and architecture of the Greek world from the 3rd century B.C. to the end of the Roman Republic.

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.

103D. Etruscan Art. Lecture, three hours. Prerequisite: course 50. The arts of the Etruscan peninsula from ca. 1000 B.C. to the end of the Roman Republic.

103E. Late Roman Art. Lecture, three hours. Prerequisites: courses 50, 103C. The art of the Roman Empire from the 2nd to the 4th century (A.D.).

104B-104C. 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.

104A. 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.

104B. 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.

105C. Romanesque Art. Prerequisite: course 51. Art and architecture of Western Europe in the 11th and 12th centuries.

105D. Gothic Art. Lecture, three hours. Prerequisite: course 51. Art and architecture of Europe in the 13th century.

105E. Byzantine Art. Lecture, three hours. Prerequisite: course 51 or consent of instructor. Not open to students with credit for former 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.

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.

106C. Italian Art of the Cinquecento. Lecture, three hours. Prerequisite: course 57. Art and architecture of the 16th century.

106D. Northern Renaissance Art. Lecture, three hours. Prerequisite: course 57. Painting and sculpture in the Northern Renaissance.

106E. Northern Renaissance Art. Lecture, three hours. Prerequisite: course 57. Painting and sculpture in the Northern Renaissance.

107A. Baroque Art. Lecture, three hours. Prerequisite: course 57. Art and architecture of Italy and Spain, 16th to late 17th century.

107B. Baroque Art. Lecture, three hours. Prerequisite: course 106A. Art and architecture of Northern Europe, 16th to late 17th century.

107C. European Art of the 19th Century. Lecture, three hours. Prerequisite: course 57. Painting, architecture, and sculpture of the 19th century will be examined in the light of political and intellectual developments. Special emphasis will be given to the influence of the French Revolution.


108B. European Art of the 19th Century. Lecture, three hours. Prerequisite: course 57. The development and influence of David, Ingres, and Delacroix.

108C. European Art of the 20th Century. Lecture, three hours. Prerequisite: course 57. Neoclassicism and Romanticism, with emphasis upon France — the development and influence of David, Ingres, and Delacroix.

109A. Japanese Art. Lecture, three hours. Not open to freshmen. Survey of the arts of China from the Neo-lithic times to the 18th century. The various arts will be related to the developing historical background of the country.

109B. Chinese 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.

110A. 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.

110B. European Art of the 20th Century: Post-impressionism 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.

110D. Contemporary Art. Lecture, three hours. Prerequisite: course 54. European and American art since World War II.

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.

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 art.

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.

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.

114D. 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.

115A. Advanced Indian Art. (Formerly numbered 115A.) Lecture, three hours. Prerequisite: course 114A. Study in Indian sculpture and architecture. Concurrently scheduled with course C257.

115B. Advanced Chinese Art. (Formerly numbered 115B.) Lecture, three hours. Prerequisite: course 114B. Study in Chinese painting and sculpture. Concurrently scheduled with course C258.

115C. Advanced Japanese Art. (Formerly numbered 115C.) Lecture, three hours. Prerequisite: course 114C. Study in Japanese painting and sculpture. Concurrently scheduled with course C259.

117A. Advanced Studies in Pre-Columbian Art: Mexico. (Formerly numbered 117A.) Lecture, three hours. Prerequisite: course 112A or consent of instructor. A study of the art of selected cultures of northern Mesoamerica. Periods include the Preclassic, Classic, and Postclassic, with emphasis on historical and iconographic problems. Concurrently scheduled with course C218A.

117B. Advanced Studies in Pre-Columbian Art: Mexico. (Formerly numbered 117B.) Lecture, three hours. Prerequisite: course 112A 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 C218B.
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

C118A. 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

C118B. The Art 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

C118C. 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

C118D. 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 Guinean 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. Ms. Klein

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. Ms. Klein

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. Ms. Klein

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. Ms. Klein

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. Ms. Klein

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. Mr. W. Brown

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. Ms. Klein

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. Murpulic, 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. May

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. Heineck 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 creation of individual creative work and ideas. May be repeated for a maximum of sixteen units. Ms. Heincken and the Staff

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. Ms. Klein

161K. Historic Fashions. Lecture, three hours; discussion, four hours. The evolution of glass form and technology. May be repeated once.

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. Ms. McCloskey

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. Mr. Saxe

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-iom methods of fabric construction using pliable elements. May be repeated once. Mr. Saxe

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. Ms. McCloskey

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. Saxe

166A-168B. Glass. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Course 166A is prereq. to 166B. The development of forms in glass; methods including blowing, molding, and coldworking. Each course may be repeated once. Ms. Roberts

168F. 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
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 (4 to 23 credits). 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 study of the print as an art form, with emphasis on the role of the print and its place in the history of the graphic arts. Students will read several books on various aspects of the art of printmaking. Each student will prepare a final paper on a chosen subject.

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 by reading selected material in advance.

211. Problems in Islamic Art. Seminar, two hours. Critical studies in the history and connoisseurship of Islamic art. Study of the art and architecture of the Islamic world (Spain to Iran) from the 8th to the 17th century. The seminar will deal with either monuments or theoretical problems relating to Islamic culture and artistic production.

216A. Advanced Studies in African Art: Western Africa. Lecture, three hours. Prerequisite: course 118C or consent of instructor. A study of the art and architecture of Africa, with particular emphasis on 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. Typically dealing with one or two particular topics.

216B. Advanced Studies in African Art: Central Africa. Lecture, three hours. Prerequisite: course 118B or consent of instructor. A study of the art of selected cultures of southern Africa, with particular emphasis on 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. Typically dealing with one or two particular topics.

218A. 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 Mexico, with particular emphasis on 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. Typically dealing with one or two particular topics.

218B. 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. Typically dealing with one or two particular topics.

225. Medieval Art. Seminar, two hours. Topics are announced in advance. May be repeated one time.

226A. Medieval Art and Architecture. Seminar, two hours. Open to senior and advanced students through consent of adviser. faculty members examine specific problems relevant to design theory and performance. Ms. Downey.

226B. Medieval Art and Architecture. Seminar, two hours. Open to senior and advanced students through consent of adviser. Faculty members examine specific problems relevant to design theory and performance. Ms. Downey.

229. Renaissance and Baroque Paleography. Seminar, two hours. Prerequisites: 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. Ms. 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. Ms. Pedretti, Ms. Weisz.


232. 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. Mr. Pedretti.

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.


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 and 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, its 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 (1/2 to 2 courses). Participation in archaeological excavations or other archaeological research under supervision of the staff.

271. Graduate Painting (1/2 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 (1/2 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 (1/2 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.

274. Graduate Photography (1/2 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. Heinrecke


280. Communication Imagery (1/2 to 2 courses). Laboratory, two to four hours. Exploration of graphic processes in visual systems. Design theory and procedures related to typograpgy, letter form, photography, and the graphic film as they communicate visually (i.e., poster, brochure, book, film, and exhibition).

281. Image Transfer (1/2 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 (1/2 to 2 courses). Laboratory, two to four hours. Development of expressive 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 video tapes for later analysis. Mr. Kataoka

283. Costume (1/2 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 (1/2 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 (1/2 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 (1/2 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 (1/2 to 2 courses). Laboratory, two to four hours. Advanced experimental work with the elements of fabric design, including surface manipulation and methods of decoration, 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 (1/2 to 2 courses). Laboratory, two to four hours. Articulation of landscape elements, including conservation and planning.

292. Shelter (1/2 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 (1/2 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.

294. Industrial Design (1/2 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, electronic, urban components, area studies, materials, and processes. Mr. Kester, Mr. Shapira

295. Exhibition Design (1/2 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 (1/2 to 1 course). Prerequisite: apprentice personal employment or 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 (1/2 to 2 courses). Prerequisite: consent of instructor.

597. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examination (1/2 to 2 courses). Prerequisite: consent of instructor. S/U grading.

598. Research for and Preparation of Master's Thesis (1/2 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
Allegre Snyder, M.A.
Emma Lewis Thomas, Ph.D.
Alma M. Hawkins, Ed.D., Emeritus

Associate Professors

Erma Dosamantes-Alperton, Ph.D.
Judy Miloma 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.
Judith Gantz, M.A.
Martha Kalman, M.A.
Margaret Oxen Marshall
Barbara Mattingly
Emilio Pulido-Huizar, B.A.C.
Mia Slavenska
Melinda Williams, M.A.
Medha Yodh, M.S.

2097. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examination (1/2 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.
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 Urfing in the department office.

Preparation for the Major

The Major

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, and 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 (% 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.

Prerequisite: course 10C or consent of instructor. Dance 10A is for non-dance majors. Continuation of modern dance skills, with increased emphasis on principles of structure and form in dance composition.

M.S. Williams (F, W, Sp)

11A-11B-11C. Creative Dance (% course each). Prerequisite: course 10C or consent of instructor. Designates for non-dance majors. Continuation of modern dance skills, with increased emphasis on principles of structure and form in dance composition.

M.S. Williams (F, W, Sp)

30AF-30AW-30AS. Fundamentals of Ballet (% 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 (% 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—student relationships. Ms. Gilbert (F,Sp)

36A-36B. Fundamentals of Creative Dance Technique (1/2 course each). Study of the process of the development 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. Ms. Fisher (W,Sp)

127. Foundation of Dance Education. Prerequisite: course 36C or consent of instructor. Analysis and application of principles of movement and choreography in the teaching of modern dance in junior colleges and high schools. Ms. Fisher (W,Sp)

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 (W)

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,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 form. 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.

71A-71C. Performance Courses in Ethnic Dance (½ course each). May not be repeated for credit.

71A, 71B, 71C. Dance of India; 71D, 71E, 71F. Dance of Asia; 71G. Dance of Japan; 71H. Dance of Java; 71J. Dance of Mexico; 71M. Dance of Spain; 71P. Dance of Yugoslavia; 71Q. Dance of Korea.

92. Laboratory in Dance Production (½ course). Laboratory, two hours. Realization of concepts of lighting, sound, costume, scene design, and stage practices in departmental dance productions. Must be repeated once. N/P 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,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,Sp)

114A-114B-114C. Advanced Contemporary Dance (½ course each). (Formerly numbered 114A-114F). Lecture, one hour; laboratory, live hours. Prerequisite: course 153C or consent of instructor. Advanced techniques in contemporary dance with emphasis on performing skills. Each course may be repeated once.

Mr. DeYoung, Ms. Howard, Ms. Kalman (F,Sp)

115A. 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 development 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. Ms. 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 Design (½ course each). Lecture, four hours; laboratory, four or more hours. Prerequisite: course 152A or consent of instructor. Analysis of 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 departmental dance. 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. Ms. Gilbert (F, W)

155. Form and Structure in Choreography. Prerequisite: dance major or consent of instructor. A study of the dance as a creative form. A critical analysis of dance, factors influencing its development and sociocultural functions, consideration of relationship of dance to other art forms.

Ms. Dumas (F,Sp)

156A-156B. Philosophical Bases and Trends in Dance (1½ courses). Course 156A is prerequisite to 156B. Critical analysis of dance as a creative experience and the role of professional and educational dance in society. Study of selected approaches to current development in dance.

Mrs. Gilbert (W,Sp)


160. Creative Dance for Children. Laboratory with children. Prerequisite: course 150C 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 year-long sequential course focuses on group process and group dynamics, both at the nonverbal (movement) and verbal modes of experience. The course works toward achieving a significant level of psychological insight from the student, to assist in functioning professionally as an effective dance/movement therapist. Ms. Serin
171A-171P. Performance Courses in Ethnic Dance (½ course each). Each course may be repeated once by consent of instructor. Prerequisite: corresponding course in 171A-171P series (i.e., 171A is prerequisite to 171A, 171B 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. The 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, scenic design, and stages practices in departmental dance productions. May be repeated once. P/NP grading.

193. Dance Performance Practicum (½ course) Laboratory, four hours. Creative participation as a dancer in selected choreography in public performance. P/NP grading.

17TA-17TB. 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 (¼ course). Prerequisite: course 159. Advanced study of dance notation.

Ms. 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,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.

Ms. Scothorn, Ms. Scott (F,Sp)


Mrs. Gilbert (Sp)

208. Principles of Dance Theater. Prerequisites: courses 152A, 152B. Principles which serve the presentation of dance.

Mrs. Scothorn (W)


Mrs. Thomas

211A. Kinesiology for Dance. Prerequisite: consent of instructor. The scientific basis for movement for dance. A study of physiology, kinesiology, and physical principles and demands of dance.

Ms. Gantz (F)


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 Pesci, 1430) to codification in works of Arbeau, Carose, Negri (1586-1610). Style will be studied through reconstruction of steps, costumes, music, and presentation form.

226A-226E. Dance Expression in Selected Cultures. Prerequisites: course 140A, 140B, or 140C, or consent of instructor. Dance is viewed as an aspect of culture and human behavior.

Mrs. Thomas (W)

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 framing dance 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, three 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,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,Sp)

C254. Music as Dance Accompaniment. Prerequisite: course 253 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.

Ms. 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 philosophical 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.

Ms. 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,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 252A 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,Sp)

596A. Directed Individual Study or Research (½ to 2 courses). S/U grading.

596R. Directed Study or Research in a Hospital or Clinic (½ to 2 courses). S/U grading.

597. Preparation for M.A. Comprehensive Examination (1 credit).


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

119A, 119B. Creative Dramatics

122. Makeup for the Stage
Ethnic Arts
(Interdepartmental)

205 Women's Gym, 825-3951

Professors
Elise Dunn, M.A. (Dance)
Robert A. Georges, Ph.D. (English)
Melvyn B. Heistien, Ph.D. (Theater Arts)
William R. Hutchinson, Ph.D. (Music)
Michael O. Jones, Ph.D. (History)
Jacques Maquet, Ph.D. (Anthropology)
Allegre Snyder, M.A. (Dance)

Associate Professors
Philp L. Newman, Ph.D. (Anthropology)
Arnold Rubin, Ph.D. (Art, Design, and Art History)
Judy Miloma Susilo, M.A. (Dance), Coordinator
Michael O. Jones, Ph.D. (History)

Focus on a particular medium of expressive culture. 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 Urfug in the program office.

The Major

The following courses are required:


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.
- 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 area course 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, M129, 130, 131, M149, M150, 190, German 134.
- Music: 17A-17B-17C, 26A-26B-26C, 140A-140B-140C (non-sequential).

- Ethnic Arts 190A-190B.

3. 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. Ethnography 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. Folks 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. 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 Gollner, Ph.D.
Frederick F. Hammond, Ph.D.
Malcolm S. Cole, Ph.D.
John L. Hall, M.M.
Paul V. Reale, Ph.D.

Emeritus Professors
Peter C. Crossley-Holland, M.A.
Maurice Gerow, Ph.D.
Edwin H. Hanley, Ph.D.
Mantle L. Hood, Ph.D.
Boris A. Krutikov, 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. Ojele, 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, Ph.D.
D. K. Wilgus, Ph.D.

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.


(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

**Does not apply for students whose emphasis is music education.**

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 specialty must also be fluent in speaking one of these languages. The language requirement should be satisfied 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, 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 260A or 260B. 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 from UCLA will normally take five quarters of Music 252A, 252B, 252C in sequence, with the option of substituting 596A for either or both 252C. 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.


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 (1/2 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 (1/2 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 (1/2 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
8C. Graduate Piano Sight-Reading (1/2 course). Prerequisite: graduate standing. Designed to help entering graduate students remedy entrance deficiencies. Clearance of deficiencies is by examination. May be repeated for credit. Ms. Shaffner
10. Computer Assisted Sight-Singing Laboratory (1/2 course). Lecture, two hours; laboratory, one hour. Prerequisites: course 1A or equivalent consent of instructor. An individualized, self-instructional approach to the development of sight-singing skills through the use of a music computer, keyboard instrument, and linear program learning.
11A-11F. Musicianship (1/2 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 keys, and elementary rhythmic exercises. 11B. Sight-singing of melodies with simple modulations, diatonic figured bass playing, 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 chromatic melodies, two-part dictation, chromatic figured bass playing, keyboard reading of orchestral scores, and rhythmic exercises.
12A-12B. Counterpoint (1/2 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. Frick and the Staff
14A-14B-14C. Common Practice Harmony (1/2 course each). Lecture, four hours. 14A. Prerequisites: aptitude, achievement, and piano skills tests. Common practice harmony using tradiilons, inversions, diatonic, 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. Bankin and the Staff
14D. Modern Harmony (1/2 course). Lecture, four hours. Prerequisite: course 14C. 20th-century practices, including nonfunctional harmony, pan-diatonicism, polygonality, and serialism.
Ms. Bankin and the Staff
Upper Division Courses

109A-109B. 100C. Music in American Education (½ course each). Lecture, three hours; laboratory, one hour. 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 for the dramatic and documentary film. Techniques used in cinema and television. 

110A-110B. Study and Conducting of Choral Literature (½ course each). Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, and 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. Conducting fundamentals, including basic skills, techniques, analyses, and repertoire. stylistic interpretation of music literature.

111A-111B. Study and Conducting of Instrumental Literature (½ course each). Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, and 14D, and 26A-26B-26C, or consent of instructor. Emphasis on practical problems in scoring for small and large ensembles at various educational levels. Band Scoring; Choral Scoring.

112A-112B. Practical Scoring. Lecture, two hours; laboratory, two hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, and 14D, and 26A-26B-26C, or consent of instructor. Emphasis on practical problems in scoring for small and large ensembles at various educational levels. Band Scoring; Choral Scoring.

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. Emphasis on the study of representative works from the Renaissance to the present day.

114A-114B. Reading. Lecture, three hours. Prerequisites: courses 1A-1F, 12A-12B, 14A-14C, and 14D, or consent of instructor. Emphasis on practical problems in scoring for small and large ensembles at various educational levels. Band Scoring; Choral Scoring.

115A-115B. Study of Instrumental and Vocal Techniques (½ course each). Laboratory, three hours. Prerequisites: courses 1A-1F, 12A-12B, 14A-14C, and 14D, or consent of instructor. Applied studies in basic performance techniques and tutorial materials. Each of courses 115A-115D may be repeated once for credit.
128A-126B-126C. History and Analysis of Music II. Lecture, four hours, laboratory, one hour. Prerequisite: course 11A, 12A, 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 the period of the Italian High Renaissance to the Baroque era will be covered. Emphasis will be placed on analysis of representative works of each style period. Materials selected will illustrate the history of style and changing techniques of composition.

C127A-C127F. Selected Topics in the History of Music. (Formerly numbered 127A-127F.) Lecture, three hours. Prerequisites to all courses: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C. In addition, 126A is prerequisite to 127D. 126A-126B are prerequisite to C127E, and 126A-126B-126C are prerequisite to C127F. Designed as a seminar 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. Masses, Carols, and Monophonic Music of the Caribbean islands; 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.

Ms. Stevenson


Mr. Stevenson

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


Mr. Grodon

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. Stevenson

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, Edo music, solo 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 traditions of folk music in Eastern Europe (including the Balkan area) and its development in the Mediterranean Basin, particularly those in which interaction between European and Oriental styles is apparent. 142B examines the historical aspects, social functions, and relationships of music to other art forms in selected areas of Africa.

Mr. Porter, Ms. Racy

143A-143B. Music of Africa. Lecture, three hours; laboratory, two hours. Prerequisite: courses 140A-140B or consent of instructor. Course 143A is prerequisite to 143B. An investigation of the historical aspects of music and its relationship to other art forms in selected areas of Africa.

Ms. DjeDje

144. American Popular Music. Lecture, three hours; laboratory, two hours. Recommended prerequisite: course 2A or equivalent. A survey of the history and characteristics of American popular music and its relationship to American culture, with attention to 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. 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. A study of the literature, major sources, paleography, theory, and philosophy of the Chinese and Japanese traditional musical sources. Films, recordings, lectures, and limited laboratory instruction.

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. History and theory of the music of China, including a survey of various provincial and ethnic music traditions. Instructional techniques. Not open for credit to students with credit for former course 147. 147B. Introduction to various musical traditions. Analysis of representative styles.

Mr. Lu

148. Folk Music of South Asia. Prerequisite: consent of instructor. An illustrated survey of some of the regional musical styles, and musical instruments found in India and Pakistan, with special reference to their relations to social, economic, and cultural context and 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, religious, and social structure.

Mr. Draper


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. 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. Music of the Eastern, California-Yuman, Great Basin, and Northwest Coast areas; 153B. Musics of the Athabascan, Pueblo, Plains, and Modern Pan-Indian Trends; 153C. Sociocultural and aesthetic aspects of American Indian music, with specific reference to the manner in which cultural values, prescriptions, and cultural traditions, and technological advances have affected music of various tribes.

Mr. Draper, Ms. Heth

154A-154B. The Afro-American Musical Heritage. (Same as Folklore M154A-M154B.) Prerequisite: course 1A or consent of instructor. Course 154A is prerequisite to 154B. A study of Afro-American rhythms, dance, music, folk songs, work songs, spirituals, blues, and jazz; the contrasts between Western, African, Afro-American, and Afro-Brazilian musical traditions.

Ms. DjeDje

156A. Techniques of Electronic Music. Lecture, three hours; laboratory, two hours. Prerequisites: courses 140A-140B 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

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 the role of racial, cultural, and social 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 representative 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 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. Kame, Mr. Treger

160B. Viola. Ms. Kestenbaum

160C. Cello. Mr. Oliver

160D. String Bass. Mr. Zbits

160E. Harp. Ms. Neil

160F. Classical Guitar. Mr. Norman and the Staff

160G. Viola da gamba. Ms. Marcus

160K. Lute. Mr. Bussell

161A. Flute. Mr. Stokes

161B. Oboe. Mr. Bussell

161C. Clarinet. Mr. Gray
161B. Bassoon. Mr. Munday
161E. Saxophone. Mr. Gray
162A. Trumpet. Mr. Guarnieri
162B. French Horn. Mr. 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. Mr. Karp
165. Voice. Mr. Guarnieri, Miss Hinson. Mrs. Patton and the Staff

174A-174D. Musical Terminology and Diction for Musicians (1/4 course each). Prerequisite: music major or consent of instructor. Highly recommended for students planning to study abroad. Prerequisite: Music Education. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. May be concurrently scheduled with courses C290A-C290B.

191. Proseminar in Music Education (1/2 course). Prerequisites: courses 11A (may be taken concurrently) and sophomore standing. Mr. Travis. May be repeated for credit. 192. Seminar in the History of European Music. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. Highly recommended for students in the Music major. May be repeated for credit. 193. Seminar in the History of American Music. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. Highly recommended for students in the Music major. May be repeated for credit. 194. Seminar in the History of Music Education. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. Highly recommended for students in the Music major. May be repeated for credit. 195. Seminar in the History of Music Performance. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. Highly recommended for students in the Music major. May be repeated for credit.

175. Chamber Ensembles (1/2 course). Prerequisite: audition. Students must be at the advanced level of their instrument to participate. Prerequisite: Music Education. (Formerly numbered 190A-190B.) Lecture, one hour. Prerequisites: courses C190A-C190B. May be repeated for credit. 176. Seminar in Music Theory. (1/2 course each). Lecture, three hours. Prerequisites: courses 140A-140B-140C. May be concurrently scheduled with courses C290A-C290B.

181. Medieval Notation. Seminar, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B. Consent of instructor.
182. Renaissance Notation. Seminar, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B. Consent of instructor.
183. Baroque Notation. Seminar, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B. Consent of instructor.
184. 18th Century Notation. Seminar, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B. Consent of instructor.
185. 19th Century Notation. Seminar, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B. Consent of instructor.
186. 20th Century Notation. Seminar, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B. Consent of instructor.
187. Analytical Approaches to Folk Music. (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 ethological perspectives on this music are combined with numerous recorded examples from the major cultural subdivisions of the region.
188. 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.
190. Analytical Approaches to Folk Music. (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 ethological perspectives on this music are combined with numerous recorded examples from the major cultural subdivisions of the region.
191. Proseminar in Music Education (1/2 course). Prerequisites: courses 11A (may be taken concurrently) and sophomore standing. Mr. Travis. May be repeated for credit.
192. Seminar in the History of European Music. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. Highly recommended for students in the Music major. May be repeated for credit. 193. Seminar in the History of American Music. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. Highly recommended for students in the Music major. May be repeated for credit. 194. Seminar in the History of Music Education. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. Highly recommended for students in the Music major. May be repeated for credit. 195. Seminar in the History of Music Performance. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. Highly recommended for students in the Music major. May be repeated for credit.

Graduate Courses

200A. Research Methods and Bibliography (1/2 courses). Lecture, three hours. Prerequisite: graduate standing. A survey of general bibliographic material in music.
200B. Research Methods and Bibliography (1/2 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 (1 course 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.
201D. Seminar in the History of Music Theory. (1/2 course each). Lecture, three hours. Prerequisite: consent of instructor. Vocal and instrumental notation; paleography of the period. Mr. D'Accone.
201E. Seminar in the History of Music Theory. (1/2 course each). Lecture, three hours. Prerequisite: consent of instructor. Vocal and instrumental notation; paleography of the period. Mr. D'Accone.
225. 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 C225.
226. 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 devices, and programming of original compositional materials. Additional compositional assignments are required of graduate students. May be concurrently scheduled with course C226.
227. Seminar 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 only once for credit. May be concurrently scheduled with courses C127A-C127F. 227A. Medieval Ages; 227B. Renaissance; 227C. Baroque; 227D. Classic; 227E. Romantic; 227F. 20th Century. Mr. Gollner and Mr. Porter.
248. Seminar in Comparative Music Theory (1/2 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 (1/2 courses each). Lecture, three hours. Prerequisite: course 200A. Course 250A is not prerequisite to 250B. Music Theory from Antiquity through Zarlino; 250B. Music Theory from Rameau to the Present. Mr. D'Accone and Mr. Reaney.
251A-251D. Seminar in Special Topics in Composition andor Theory (1/2 course each). Each course an 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 (1/2 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. 252A. Composition; 252B. Advanced Composition; 252C. Advanced Composition. Mrs. Bankin and Mr. Reaney.
253. Seminar in Notation and Transcription in Ethnomusicology (1 course). 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 (1 course). 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 and Mr. Jairazbhoy.
255. Seminar in Musical Instruments of the Non-Western World (1 course). Lecture, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B, or consent of instructor.
256. Seminar in Musical Instruments (1 course). 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.
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. May be repeated for credit.

288. Seminar in North American Indian Music. Seminar, three hours. Prerequisite: consent of instructor. A survey of representative musical styles of Native North Americans, including elements 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.

289. Seminar in Ethnomusicology. Lecture, three hours. Prerequisites: courses 140A-140B-140C, 190A-190B, 190C, and 206. Seminar in Ethnomusicology (1½ courses). Lecture, three hours. Prerequisite: course 187 or consent of instructor. May be repeated once for credit.

290. Seminar in the Psychology of Music (1½ courses). Lecture, three hours. Prerequisite: courses 140A-140B-140C, 190A-190B, 190C, and 206. Seminar in the Psychology of Music (1½ courses). Lecture, three hours. Prerequisite: course 187 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.}

596C. Directed Individual Studies in Music Education (1, 2, 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


Folklore and Mythology C102-103. Anglo-American Folk Songs M123B. Finnish Folk Songs and Ballad M243A. The Ballad M243B. Problems in Ballad Scholarship

Theater Arts

2310 Macgowan Hall, 825-5761

Professors


Emeritus Professors


Associate Professors

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, 17A, 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.

*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, 108E, 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 10 1/2 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 present- ed 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 areas 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 the history, aesthetics, criticism, or techniques of the theater and a general plan of investigation from the M.A. 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 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 present- ed 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 ethnomorphological 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 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.

**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 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 Primitve 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 100 or 101A 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 (1/2 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.
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 create theater suitable for children and families, creating through improvisation a theater presentation for a young audience. Class sessions focus on testing theoretical concepts through the ensemble work, rehearsing, 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 critique 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, 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 is given in the composition of one-act and full-length plays.

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 creative 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. Study and practice of the art of acting through a progression to more advanced acting problems. 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 constructed problems in performance 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 stage painting 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, 142A, and 142B 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 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 124 and consent of instructor. Required of theater majors. The study of costume analysis and 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 143. A study of the techniques 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 equipment. May be repeated once for credit.

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, fabric, color, and decoration as related to theatrical productions.

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 design and elevation. 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 technique of sketching and drafting of working drawings essential in the development of the design of sets and properties for theater, television, and motion picture productions.

150. 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. Prerequisites: course 160 or 161A and consent of instructor. Course 121 may be taken concurrently. The intensive development of primary directing skills and processes, including text analysis and the exploration of craft elements, as a basis for directing, rehearsal, and the development of the director's voice and style. The student will work in professional and semi-professional settings.

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. Working in three-quarter and professional environments, the student develops a style of production by staging scenes drawn from the period of early realism through expressionism.

161C. Continuum in Directing for the Stage (½ course). Lecture/laboratory, six hours. Prerequisites: course 161B and consent of instructor. Course 121 may be taken concurrently. Working in three-quarter and professional environments, the student develops a style of production by staging scenes drawn from the period of early realism through expressionism.

162A. Intermediate Play Direction. (Formerly numbered 162A.) Lecture, 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 161B.) Lecture, four hours; laboratory, six hours. Prerequisites: courses 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 or 141A, 142A, 142B, 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 (1/2 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 (1/2 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 C272 and C472.


190A. The Role of the Producer in the Professional Theater (1/2 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. An examination 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. Design 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 twice 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.


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. 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 dimensions 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.

109. 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 perspective used in selected documentary, educational, and propaganda films.

110A. History of Broadcasting. Lecture, viewing, six hours; discussion, one hour. Prerequisite: consent of instructor. An 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.

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. A critical survey of broadcasting here and abroad. Consideration of the social responsibilities and educational implications of broadcasting.

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. A 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 affect the affectivity 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 Picture. Laboratory, six hours. Prerequisite: course 20 or consent of instructor. Projects in acting for television and motion picture videos. Videotaping 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 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 on field and studio equipment, use of the remote truck. Field and studio positions 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 productions.

134. Motion Picture/Television Writing. Discussion, three hours. Prerequisite: consent of instructor. Introduction to 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 materials to be developed. May be repeated twice for credit.

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.

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 cinematography; with emphasis on present-day methods in motion picture and television production. A comparative study of additive and subtractive systems as employed by Technicolor, Anscocolor, 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, 165, consent of instructor. Instruction and supervised exercises in television direction, with emphasis on the creative use of camera, sound, composition, and communication, with those in front of and behind the camera. May be repeated twice for credit.

168. Undergraduate Production II (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 (1/2 or 1 course). Laboratory, to be arranged. Prerequisite: consent of instructor. A workshop providing opportunities for students to rehearse, perform, and evaluate their performances under the supervision and criticism of the instructor.

178. Technical Motion Picture/Television Laboratory (1/2 or 1 course). Laboratory, to be arranged. Prerequisite: consent of instructor. Instruction and supervised exercises in writing, reporting, editing, and producing radio and television news, public affairs, and documentary programs.

181A. Animation Design in Theater Arts. Lecture, three hours; laboratory, three hours. Prerequisite: course 181, 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 and consent of instructor. A storyboard at the first class meeting. Research and practice in creative writing and planning for the animated film. May be repeated for a maximum of six 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 creative arts used in animation to form a complete study of a selected topic. May be repeated for a maximum of sixteen units.

183. Introduction to Video Production (2 courses). Lecture, four hours; discussion, four hours; laboratory, to be arranged. Prerequisite: consent of instructor. Limited to and required of 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: course 183. An introduction to the techniques and equipment used in 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 (0.5 or 1 course). 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. Study 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. 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 (1/2 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.


202A. Seminar in Western Classical Theater. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. An examination of the theatrical production and dramatic form in the Greek and Roman periods. May be repeated twice for credit.

202B. Seminar in Medieval Theater. 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 theatrical interrelationships, 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 1770 to 1900. 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 exotic, the dream experience, and the private psyche, the religious experience, and the revitalization of myth and ritual. May be repeated twice for credit.

203A. 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 theater's response to science and technology, politics, and revolution. 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 understanding of character, costume, and scenic design. May be repeated twice for credit.

202R. Seminar in East Asian Theater. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Selected studies in the theater forms of East Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

203A. 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.

207. 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.

203A. Seminar in Film and the Other Arts. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Selected topics 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.

203B. Seminar in the Study of Theatrical Art. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. An analysis of major plays, commentators, 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. Analysis of a 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. 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.

206B. 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.

206C. Seminar in Film Structure. 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 important writing of Arnheim, Eisenstein, Bazin, Mity, etc.

208C. Seminar in Fictional Film. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. A study of the main narratives. Prerequisites: graduate standing and consent of instructor. Analysis of critical approaches. Prerequisites: graduate standing and consent of instructor. Study of important American fiction. Prerequisites: junior standing or consent of instructor. Study of the various 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.


212A. Critical and Historical Methods. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Studies in critical theories of film and television.

218A. Seminar in Film and Society. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Study of the ways films affect and are affected by social behavior, belief, and value systems; considered in relation to the different values in society. May be repeated once for credit.

219. Seminar in Television and Society. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Study of the ways television affects and is affected by social behavior, belief, and value systems; study of the technological and economic aspects of the medium. 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 affects and is 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. Study of the various genres of American film and television. May be repeated once 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 human 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. Seminar in Documentary Film. Discussion, three hours; laboratory, three hours. Prerequisites: graduate standing and consent of instructor. Critical study of the American documentary film and its relation to contemporary culture.

230B. 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.

230C. Seminar in Ethnographic Film. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. The ethnographic film as an art form of the 20th century. Prerequisites: graduate standing and consent of instructor. A study of the concept, form, and methods of film theory in contemporary writings.

230D. Seminar in Film Criticism. Discussion, three hours; laboratory, three hours. Prerequisites: junior standing or consent of instructor. A critical study of the major film critics. May be repeated twice for credit.

233. Seminar in Research Design and Method. Lecture, three hours. Prerequisites: graduate course 130A. Graduate standing, and consent of instructor. Guided completion of a full-length study or project for the writing of a thesis paper.

240. The Contemporary Playhouse. Discussion, three hours (additional hours as required). 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. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Research in technical processes and equipment in the theater.

243A-243B. Advanced Problems in Design for the Theater. Discussion, three hours (additional hours as required). 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 (1/2 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 (1/2 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.

270. Seminar in Film Criticism. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. A critical study of the major film critics. 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 problems presented by the conceptualization of the form and structure of the short film, with classical and student examples.

272. Seminar in Film Production. Lecture, two hours; discussion, two hours. Prerequisites: graduate standing and consent of instructor. Advanced study and practice in film and television production. May be repeated once for credit.

274. Seminar in Research Design. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. An examination of the general principles that govern the formulation of research questions and the preparation of a prospectus for the Ph.D. dissertation.

276A-M265B. Ethnographic Field Direction (1 or 2 courses each). Prerequisites: graduate standing and consent of instructor. Advanced study of problems in the production of ethnographic films.

276A-M265B. Ethnographic Field Direction (1 or 2 courses each). Prerequisites: graduate standing and consent of instructor. Advanced study of problems in the production of ethnographic films.
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. Gruel.

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. Programming 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 the society.

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 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 (1/2 to 1 course each). Lecture/discussion, four hours. Prerequisite: consent of instructor. Seminar study of problems in theater arts, organized on a topic basis. May be repeated once for credit.

375. Teaching Apprentice Practicum (1/2 to 1 course). Prerequisite: consent of instructor. Preparation of apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance 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. Prerequisites: consent of instructor. Limited to M.F.A. candidates in theater. Preparation and presentation of two-person scenes. Through these efforts the student begins to personalize the character's emotional needs and drives.

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 a script, the student is expected to present the motion 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. Preparations, 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/labatory. 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 (1/2 course each). Lecture/labatory. Prerequisites: M.F.A. acting candidates in theater. Development of voice techniques for the stage. Includes work on relaxation, limbering, breathing, articulators, and resonators. Special emphasis on vocal projection.


425A-425B-425C. Advanced Techniques in Movement for the Stage (1/2 course each). Lecture/labatory. Prerequisites: consent of instructor. Limited to M.F.A. acting candidates in theater. Development of movement techniques for the stage. Includes work on relaxation, limbering, movement, and stage combat.

425D-425E-425F. Special Problems in Movement for the Actor (1/2 course each). Lecture/labatory. 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.


432. Manuscript Evaluation for the Short Film. Lecture, four hours; laboratory, to be arranged. Prerequisites: course 135 and consent of instructor 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. Co-ordination 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 standing 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 scriptwriting 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. Prerequisites: consent of instructor. Advanced problems in the field of documentary and special feature programs, with emphasis on research and production.

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 (1/2 or 1 course). Lecture/laboratory, four hours (additional hours as required). Prerequisite: consent of instructor. Study and practice in costume design 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 development 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 various technical and aesthetic aspects.

451. Advanced Design for Motion Pictures (1/2 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.

453C. 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 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.

454C. Motion Picture/Television Sound Rerecording. Laboratory, eight hours. Prerequisites: course 152 or 452A, graduate standing, and consent of instructor. Preparation and presentation of a published one-act play or equivalent under rehearsal conditions. Discussion and critique of work in progress.

452. 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.

453. 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.

462. 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 full-length original play under rehearsal 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.

454A-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 166 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, 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 (1/2 or 1 course). Laboratory, to be arranged. Prerequisites: graduate standing and consent of instructor. Not open to students with credit for former courses. 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 (1/2 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.

496B. Directed Individual Studies: Research (1/2 to 2 courses). Discussion, three hours; laboratory, to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

498. Professional Internship in Theater Arts (1, 2, or 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated for a maximum of twelve units.

499. Directed Individual Studies: Directing (1/2 to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

501. Cooperative Program (1/2 to 2 courses). Prerequisite: consent of graduate adviser and Graduate Dean. 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.

506A. Directed Individual Studies: Research (1/2 to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

506B. Directed Individual Studies: Writing (1/2 to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

509. Directed Individual Studies: Production (1/2 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 (1/2 to 2 courses). May be repeated for a maximum of twelve units.

598. M.A. Thesis in Theater Arts (1/2 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 (1/2 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
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, 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 required 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; two courses in mathematics, equivalent to UCLA's Mathematics 31A, 31B, 32A, 32B, 33A, 33B; 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 (46½ 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.
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.

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)

<table>
<thead>
<tr>
<th>Units First Quarter</th>
<th>Units Second Quarter</th>
<th>Units Third Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 11A, 11B/11BL</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Mathematics 31A, 31B, 32A</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Physics 8A, 8B</td>
<td>—</td>
<td>4</td>
</tr>
<tr>
<td>English 31*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Engineering 10*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Electives*</td>
<td>—</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>17</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Units First Quarter</th>
<th>Units Second Quarter</th>
<th>Units Third Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 32B, 33A, 33B</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Physics 8C, 8D</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>School Core*</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Electives*</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

**Upper Division (23 Courses, 92 Units)**

Prerequisite for junior standing: successful completion of the minimum subject requirements specified under "Admission as a Junior."

<table>
<thead>
<tr>
<th>Units First Quarter</th>
<th>Units Second Quarter</th>
<th>Units Third Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Junior Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Core*</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics Elective*</td>
<td>4</td>
<td>—</td>
</tr>
<tr>
<td>Electives*</td>
<td>—</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>16</td>
</tr>
</tbody>
</table>

**Senior Year**

<table>
<thead>
<tr>
<th>Units First Quarter</th>
<th>Units Second Quarter</th>
<th>Units Third Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives*</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

---

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 unless they are 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 resume 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 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, 109, 121C, 124A, 127B, 199B-199G, Computer Science 5, 105, 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 500-series 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 Boilder 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 application 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 Engineering Department: Ceramics and ceramic processing, mechanical metallurgy and deformation processing, physical metallurgy and metal processing, science of materials.


System Science Department: Communications systems, control systems, operations research.


Schoolwide Programs: Biocybernetics, manufacturing engineering

**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 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.
SCHOOL OF ENGINEERING AND APPLIED SCIENCE / 325

Graduate Certificate of

Electrical Engineering

Specialization

100L, 110A, 110B, 110C, 111A, 111B, 113A,
113L,115A through 115F,116A through 116F,
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.

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.

Engineering Systems
106A, 106C, 106D, M107A, 109, 134A, 173,
1846, 184D, 184E, 193B, 199D, 270A, 274J,
274K, 276A, 277A, 277B, 280A, 280B, 284A

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,

Mechanics and Structures

130A, 134C, 137, 137A through 137E, 138,
138A, 138B, 139A, 139AC, 1398, 1398C,
237E, 238, 238A through 238E, 239AA239AZ, 239CA-239CZ, 239EA-239EZ, 240,
375.

131A, 132A, 133A, 134B, 135A through 135F,
136A, 136B, 136C, 150A, 150B, 151, 153A,
153B, 153C, 154A, 1546, 155, 156A, 157,
162C,163,164,165A,165B,165C,165L,166,
171A, 171C, 185A, 185B, 185L, 191A, 192A,
192B, 192C, 193A, 199F, 201, 231A through
236A through 236E, 239BA-239BZ, 239DA239DZ, 239FA-239FZ, 239GA-239GZ, M250,
250A, 250B, 250C, M251, 251A, 251 B, 251C,
M252, 252A, 252B, 253A, 253AA-253Z, 253B,
253C, 254A, 255A, 2558 , 256A, 2568, 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, 271 B, 271C,
271 D, 285A through285E, 285L, 286A, 286B,

ComputerScience

SystemScience

5, 10S, 20, 30, 99, 111, 112, 130, 131, 132,
141,151 A, 151B, 152A, 152B, 171,171L, 172,
173, 174, 181, 183, M 196B, 199, 201, 202,
212A, 212B, 215, 216, 218A, 219, 221, 231A,
241B, 242A, 243A, 243B, 249, 251A, 252A,
253A, 253B, 254A, 255B, 256A, 257A,
M258A-M258B-M258C, 259, 270A, 271 A,
288S, 289A-289ZZ, M296A, M296B, M296C,
375,497D-497E,
596,597A,597B,597C,598,
599.

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,
229C, 229EA-229EZ, 229J-229K-229L, 272A,
272BA-272BZ, 272C, 273A, 273B, 275A,

SchoolCourses
11, 12, 94, 104, 104C-104D, 194A, 194B,
*Open onlyto EngineeringExecutiveProgramstudents.

DepartmentalCourses
Chemical Engineering

Engineering
Lower DivisionCourses
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)
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, productionscheduling, 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)

UpperDivisionCourses
100. Electrical and Electronic Circuits. Lecture,
four hours; recitation, one hour. Prerequisites:Mathematics 31A, 31 B, 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; and electric and magnetic phenomena; vectors and the Poynting vector; electromagnetic interactions; waves in unbounded media and on two-wire transmission lines; reflection and refraction; lossy media; skin effect; analogs to electromagnetic fields. Mr. Luhmann (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. O'Brien (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 Mechanics and Electromagnetics. 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. Mead (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 design 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).


105T. 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 chemical processes. Mr. Mills, Mr. Pomraning, Mr. Viler (F, W, Sp).

105B. Principles of Engineering Economy. Prerequisite: upper division standing. Economic analysis of engineering projects; value systems; economic decision 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).


106C. Experimental Design Laboratory. Laboratory, eight hours. Prerequisite: course 106B or equivalent. Creative experimental projects for student design in any engineering domain where individual student design interest and experience may lead. Emphasis is on the student making his own 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 project 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 more 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).


109. The Engineer and Society. Prerequisite: senior standing. Selected lectures, discussions, oral and written reports related to creative engineering as it affects social, ecological and 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).


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 states and 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 generation concepts, including power-mechanics of actuators and rotating AC synchronous and induction machines and DC machines. Linear machines. Mr. Schott (Sp).

111C. Introduction to Lasers and Quantum Electronics. Prerequisite: course 100B or permission 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, mode-locking, and relaxation effects. Laser applications, including optics, machine tooling, 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. Elementary atomic concepts, quantum mechanical principles, energy levels in complex atoms, quantum statistics, crystal structure, energy levels in solids, band theory. Mr. Fetters, Mr. Viewaansan (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 superconduction properties. Mr. Fetters, 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 (W).

115D. The Principles of Design of Semiconductor Devices. Lecture, four hours; recitation, one hour. Prerequisite: senior standing in engineering. Semiconductor technology, Shockley barrier, p-n junction, MOS transistors, Field effect transistors, microwave frequency devices, integrated electronics, applications and design of devices. Mr. Viewaansan, Mr. K. Wang (F, W, Sp).

115E. Solid-State Electronics Laboratory (¼ 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 (¼ course). Prerequisite: course 115D. Design, fabrication, and characterization of junction, field effect, and other semiconductor devices. In particular the student will perform various testing tasks such as wafer preparation, oxidation, implantation, metallization, sintering, and photolithography. Mr. K. Wang (F, Sp).

116A. Electronics I. Lecture, four hours; recitation, one hour. Prerequisite: course 116A (or 100 for non-electrical engineering students) or consent of instructor or modeling of electronic devices. Device-circuit-environment interactions. Design of single-stage amplifiers. Introduction to cascaded stages, coupling problems, and frequency responses. Mr. Groen (F, W, Sp).

116B. Electronics II. Lecture, four hours; recitation, one hour. Prerequisite: course 116A. Electronic device-circuit-environment interactions with emphasis on multistage amplifiers. Tuned amplifier considerations. Nonlinear applications 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 15A. Modern logic families (TTL, ICL, 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).

118D. Communication Circuits. Prerequisites: courses 116B, 121C. Signals and spectra. Signal distortion in transmission, noise, bandwidth, and frequency requirements. Random signals and noise, linear modulation, exponential modulation circuits and characteristics. Commercial communication systems. Mr. Willis (F, Sp).

119F. Introduction to Power Electronics. Lecture, four hours; recitation, one hour. Prerequisite: course 116A. Electrical and thermal characteristics of power semiconductor devices; control of 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

118L. Electronics 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 116E. Experimental studies of diode, tuned, wideband, tuned, and power amplifiers, and multilayer feedback amplifiers. Introduction to thick film hybrid techniques. Construction of amplifier using hybrid thick film techniques. Mr. Willis (F,W)

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)

118U. 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, I/O, bus management, 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. Prerequisites: course 116B. 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 (ferries, crystals, semiconductors, plasmas). Mr. Schott (F)


117D. Electromagnetic Waves IV. Prerequisite: course 117A. Special relativity; relativistic kinematics; field transformations; particle trajectories in electromagnetic fields; radiation from accelerated charges; waves in active media, microwave sources. Mr. C.W. Yeh (W)

117E. Modern Optics. (Formerly numbered 117C.) Prerequisite: course 117A. Two-dimensional transformations. Diffraction methods. Geometrical optics and applications. Gaussian beams. Coherence 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 study of transmission lines, wave 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). Lecture, 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)


117Y. Introductory Microwave Circuits. Prerequisite: course 117A. Equivalent mode voltage/current representation of guided waves in arbitrary rectilinear structures. Magnetic and electric circuit equivalents, transformers, phase shifters, directional couplers, hybrid junctions, isolators, circulators, and microwave filters. Mr. Elicki (W)

M118. Plasma Physics. (Same as Physics 121.) Prerequisite: course 106B or Physics 110A. Senior-level introduction to plasma physics, including 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 332, 333. An introduction to the theory and application of probability. Measurement of probability, random variables, densities and distributions, 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 pseudo-random 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 332, 333. 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. Introduction to systems with illustrations from physical and life sciences. Input-output descriptions of systems; linearity, superposition, impulse response, convolution, frequency response, Fourier transform, analog, and digital methods; transforms, analysis of signals. Introduction to digital filtering and fast Fourier transform. Computational aspects of system modeling and identification. Mr. T. Ott, Mr. Wang (F,W,Sp)

122A. Principles and Feedback Control I. 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 M 124A.) Lecture, three hours; recitation, two hours. Prerequisite: course 106A or Mathematics 332, 333, or equivalent. An introduction to numerical computing techniques: matrix computations, root finding, solutions of initial and boundary value problems, numerical differentiation, 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 coding systems. Statistical information sources, entropy, noisy channels, capacity, discussion of the meaning and application of Shannon's theorems. Mr. Balakrishnan (F)

128A. Linear Systems: The State-Space Approach. Prerequisites: course 124A. 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. Lecture, 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, noise, error in mechanical, electrical, or electronic 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,W,Sp)

130A. 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,W)

132A. 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 diatomic gas, perfect dielectric gas, and Dember's crystal. Calculations of gross emission rates from surfaces. Mr. Caton (F)


131B. Mass Transfer. Prerequisite: course 105D or 131A. The principles of mass transfer by diffusion. Mass transfer by convection in laminar and turbulent flows. Intermolecular heat and mass transfer. Applications including combustion of solids and volatile fuels, evaporation and condensation, ablation and transpiration cooling, and gas absorption and catalysis. Mr. Caton (F,W,Sp)

133A. Engineering Thermodynamics. Prerequisites: courses 103, 105A, 105D. Applications of thermodynamic principles to engineering processes. Energy conversion systems. Rankine cycle and other cycles; steam power plants; nuclear power plants; solar energy; and nonreactive fluid flow systems. Mr. Dhir (F,W)

133A. 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 conversion, nuclear power 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 various solar energy collector-converter 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 of the environment. (F)

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. Kastenfied (F)

135AL. Nuclear Analysis Laboratory (½ course). Laboratory, four hours. Corequisite: course 135A. A laboratory course in nuclear engineering comprised of experiments in reactor core physics and related fields. The experiments will consist of measuring and calculating reactor core physics parameters and pertinent heat transfer/flow fluid parameters. Mr. Caton (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/flow fluid parameters. Mr. Caton (W)

135C. Introductory Nuclear Reactor Design. (Not the same as course 135C prior to Spring Quarter 1988.) 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 (W)

135D. Introduction to Fusion Engineering and Reactor Design. Corequisite: course 135A or consent of instructor. Fusion reactions, fuel cycle, and operating conditions. Magnetohydrodynamics 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, fusionable fuel, and/or chemical fuels. 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. Caton

135F. Experimental Reactor Operations, Control, and Safety (½ course). Laboratory, four hours. Prerequisite: course 135A. Operation of the UCLA R-1 research reactor; measurements of various core parameters and control system responses; design and evaluation of various safety systems through experimentation. Experiments not included in courses 135B, 135C, 135A will be conducted. Mr. Caton

136A. Introduction to Probabilistic Risk Analysis. Prerequisite: consent of instructor. Probabilistic models for the failure of components and systems. Re- dundant systems. Maintenance models. Fault and event analysis. Applications to nuclear reactor control systems. Mr. Apostolakis (W)

136B. Nuclear Reactor Thermal Hydraulic Design. Prerequisites: courses 105A, 105D, 131A. Recommended: course 135A. Thermo-hydraulic 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. Dhr (W)


137. Introduction to Chemical Engineering. Prerequisite: Mathematics 32B (may be taken concurrently). Chemistry 11C/11CL, Physics 8B. Introduction to chemical systems and processes. Chemical processes, chemical thermodynamics, kinetics, and reaction mechanisms. Namur and energy balances. (F)

137A. Chemical Engineering Thermodynamics. Prerequisite: course 137. Thermodynamic properties of pure substances and solutions. Phase equilibrium. Chemical Analysis. (F)

137B. Chemical Engineering Diffusion Processes. (Formerly numbered 137E.) (Not the same as course 137B prior to Fall Quarter 1981.) Prerequisites: courses 105D, 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 137E.) (Not the same as course 137C prior to Fall Quarter 1981.) Prerequisites: courses 105D, 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)

137D. Chemical Engineering Kinetics. (Formerly numbered 137C.) (Not the same as course 137D prior to Winter Quarter 1982.) Prerequisites: courses 105D, 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 105D, 137A, 137B. Application of chemical engineering fundamentals such as chemical reactor design and separation operations and simple economic principles for the purpose of designing complete chemical processes. (F)

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; chemical process control design and application of chemical process 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 cryogenic systems 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. Models, theories of molecular weight, 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, 137A, or consent of instructor. 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 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, cogenetics, 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), 139C, 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, cogenetics, chemical kinetics, molecular dynamics, saline water conversion, and environmental problems. (F)


140E. Materials Selection and Engineering Design. Prerequisite: course 14 or consent of instructor. Exploration of basic principles applicable in the selection of materials that are suitable 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 (½ 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. Prerequisites: courses 14, 105A. Diffusion mechanisms 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. Douglas (F)

142L. Diffusion and Diffusion-Controlled Reactions Laboratory (½ course). Corequisite: course 142A. Design of heat-treating cycles and performing experiments to study phenomena of growth of intermediate phases, recrystallization, and grain growth in metals. Analysis of data. Comparison of results with theory. Mr. Douglas (F)

143A. Mechanical Behavior of Materials. Prerequisite: course 14 or equivalent. Recommended: course 106. Plastic flow of metals under simple and combined loading, strain rate and temperature effects, dislocations, fracture, microstructural effects, mechanical and thermal properties of metals, and fatigue. Mr. Ono, Mr. Shabaik (W,Sp)

143L. Mechanical Testing Laboratory (½ course). Prerequisites: courses 14, 108. Recommended: one or more courses 143A, 158A, 156. Experimental techniques for measuring the mechanical properties of engineering materials. Elastic constants, tensile, compression and bend testing, fracture toughness, fatigue and creep testing. Mr. Ono, Mr. Shabaik (F,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 polymerization systems, adhesives. Fiber forming polymers, polymer processing technology, plastication. Mr. Mackenzie (W)

144L. Introduction to Materials Characterization A (Crystal Structure and X-Ray Diffraction of Materials). Lecture, three hours; laboratory, two hours. Prerequisite: course 14. Modern methods of materials characterization; fundamentals, properties of X-rays, X-ray diffraction; powder methods; 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. Processing of Ceramics and Glasses. Prerequisite: course 146A or equivalent. The study of the processes used in fabrication of ceramics and glasses, relationship to structure and properties. Processing operations, including materials preparation, forming, firing, and melting. Design processes 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 devices. 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 forming and cooling techniques. Determination of chemical and physical properties. Mr. Knapp (Sp)

147A. Introduction to Metalurgy. Prerequisites: course 14 and a course in thermodynamics. Introduction to metallic alloys used in engineering design. Microstructure of the metallic alloy systems, phase diagrams, metal forming, steels and cast iron, nonferrous alloys, design of metallic alloys for specific applications. Mr. Bunshah, Mr. Wagner (F)


147E. Modern Process Metalurgy. Prerequisites: courses 105A and/or 147A. Modern process metalurgy used in extraction and refining of metals and alloys. The role of vacuum processing in modernizing and enlarging the scope of extractive metalurgy. Design of extracting and processing processes. Properties of vacuum-processed materials. Mr. Bunshah (W)

147L. Manufacturing Processes Laboratory. Laboratory, eight hours. Prerequisite: course 147B. Experimental investigations of basic principles of metal forming. Relationship of 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. Compositional and properties of art ceramics and glazes. Design of glazes and methods of expressing composition. Laboratory projects will be included (not intended for engineering majors). Mr. Knapp (Sp)

149E. Ceramic Materials in History and Archaeology. Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. 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 fans, effects of friction and heat transfer in channel flows, thin airfoils in supersonic flow, viscous flow; ideal solutions of Navier-Stokes equations, boundary layer theory, instability, turbulence, separation. Mr. Charwat (Sp)

151. Performance of Vehicles. Prerequisites: courses 103, 105A. Preliminary 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, power-to-weight, 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, audiometric and noise and stability; 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 study of 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 noise equipment, transducers, noise pollution.先生 Stern (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, the aerodynamic design and stability. The quarter assignment is the preliminary design of an aircraft satisfying specifications set by the instructor. Mr. Friedmann (W)


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, oscillographic motion, normalized coordinates, orthogonal co-ordinates, the vibrating string. Mr. Forster (Sp)

156A. Advanced Strength of Materials. Prerequisite: course 108. Columns and beam columns. Torsion; Air's stress functions, stress concentrations. Loads on nails, rollers. Rotating disks, thick hollow spheres, thick hollow circular cylinders, curved beams, coiled springs. Mr. Fourney (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 127 or equivalent. Elementary introduction to fracture mechanics. Emphasis on experiments and 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 plate state and torsion problems. (Stress function, iteration, strain gages, photoelasticity.) Homogeneous plastic flow, plastic tensile instability. Mr. Westmann (F,W)


161A. Introduction to Astronautics. Prerequisite: course 102. The space environment of earth, near-earth orbits and trajectories, step rockets and staging. The space environment of earth, near-earth orbits and trajectories, step rockets and staging. Course for students interested in research, design, or systems. Mr. Yang (W, even years)

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. Prerequisites: course 102 or equivalent. Course covers research topics of mechanical design and development of mechanical systems. Application and analysis of basic components and subsystems such as gears, 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 will be 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 mechanics and 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 to controller, 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 methods, moment-area methods, 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. Computerized methods of structural analysis; three moment equation, slope-deflection equations, moment distribution; virtual work, minimum potential, complementary energy; computer programs; Control system design; analysis of statically determinate and indeterminate structures such as beams, frames, arches, and trusses; introduction to slope-deflection equations. Mr. Nelson (F,W)

165C. Computer Analysis of Structures. Prerequisite: courses 165A, 165B, 169A. Introduction to finite elements and computer-aided design and analysis. Fortran coding for matrix manipulation, inversion; solution of the linear algebraic equations, eigenvalue problems; structural applications; matrix displacement method for planar frames. Mr. Dong (Sp)

165L. Structural Design and Testing Laboratory (¼ course). Lecture, one hour; laboratory, four hours. Prerequisites: courses 157, 165A. Design, construction, instrumentation, and test of a small 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, plate analysis; instability, failure of columns, plates, approximate solutions, numerical 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 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 steel. 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, four hours. Prerequisites: courses 167A, 167C and consent of instructor. Experimental verification of design strength 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 (¼ 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)


169L. Mechanical Vibrations Laboratory (¼ course). Corequisite: course 169A. Calibration of instrumentation for measurement of dynamic systems. Determination of natural frequencies and damping factors from free vibrations. Determination of natural frequencies, mode shapes, and damping factors from forced vibrations. Mr. Rea (F)


171C. Dynamic Systems Control II. Recommended prerequisite: course 171A. State-space models of continuous and discrete-time dynamic systems. Linear algebra of systems; vector spaces; geometric concepts; transformations and matrices; cascaded systems. Stability Controllability and observability. State representation of nonlinear systems invertibility. Emphasis on modeling concepts, applications, and computer-aided problem solving. Mr. Léonides (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 for computer-compatible management in project definition, design, implementation, and evaluation. Quantitative and qualitative interdisciplinary formulations exemplifying environmental, industrial, business, and administrative challenges with people influences and operational values. Organizational models. Project manager as a leader. Mr. Rea (F)

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. Rubin (R, 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 perceptions, major functional roles, statistical and other techniques, and elements of engineering strength and systems. Mr. Lyman (F, W, Sp)

176A. Introduction to Optimization Methods for Engineering Design. Prerequisites: course 10C, Mathematics 32A, 32B, 32A, 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 optimization problems. Methods for converting the general inequality constrained problem to a sequence of unconstrained problems. Mr. Rosensten (F)
180A. Environmental Biotechnology. Prerequisite: course M107A or consent of instructor. Physical, physiological, and psychological aspects of the interaction between man and thermal, atmospheric, radi- ant, and mechanical agents and energies in the envi- ronment. Biological and physical requirements for en- gineering 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 applica- tions. Limits and optimality of human psychophysiological capabilites applied to display-control design, de- cision making problems, and task definition; problems of man-machine interactions in large-scale sys- stems. - Mr. Lyman (W)

181A. Air Pollution Control. Prerequisite: senior standing or consent of instructor. Quantitative consider- ation of the air resource and its management. Air quality measurements and standards. Systems for pollution removal. Industrial, commercial, and com- munity air pollution problems. Data analyses and in- terpretations. Lectures, occasional laboratory, and field trips. - Mr. Perrine (Sp)

184A. Engineering Hydrology. Prerequisite: senior standing or consent of instructor. Fundamentals: 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 Engineer- ing. 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, in- terconnected systems and applications: extension to water resources engineering. - Mr. W. Yeh (W)

184D. Water Quality Control Systems. Prerequi- site: course 103 and upper division standing in engi- neering or consent of instructor. Biological, chemical, and physical bases of water quality and pollution; potability and chemical aspects of treatment and rec- lamation; analysis and design of water and waste- water treatment systems; field trip. - Mr. Stenstrom (Sp)

184E. Water Quality Control Laboratory. Laborato- ry, eight hours. Prerequisites: course 184D (may be taken concurrently). Chemistry 11a, 11b. Basic labora- tory techniques and practice for the characteriza- tion and analysis of waters and wastewaters. Select- ed experiments include elements of aquatic analysis, oxygen demand, suspended solids, dissolved oxy- gen 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 Sci- ences 1. Soil as a foundation for structures and as a material of construction. Soil formation, classification, physical and mechanical properties, compac- tion, bearing capacity, earth pressure, consolidation, and shear strength. - Mr. Lade (F, W)

185B. Design of Foundations and Earth Struc- tures. (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 proper- ties 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 (1/2 course). (For- merly numbered 185B.) Laboratory, four hours. Prerequi- sites: courses 185A, 185B, or consent of instruc- tor. Laboratory experiments to be performed by the students to get basic data required for assigned de- sign problems. Soil classification, Atterberg limits, permeability, compaction, shear strength, and specif- ic gravity determination. Design problems, report writing. - Mr. Oner

181A. Laplace Transforms and Applied Complex Variables. Prerequisites: courses 100, 102. Introduc- tion to the Laplace transform, applications to electrical and mechanical problems, convolution-type integral equations, difference equations, and simple boundary value problems in partial differential equa- tions. Classical transform theory, convolution inte- grals; 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 math- ematical methods to engineering problems are con- sidered. Eigenvalue problems for continuous sys- tems 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 mathemat- ics to engineering problems. A survey of the classical partial differential equations, wave, heat, and poten- tial. The formulation of boundary value problems and analytical and numerical methods are studied. - Mr. Forster, Mr. Kastenberg, Mr. Levan (F)

193A. Engineering Probabilistics and Stochas- tics. Prerequisite: junior standing in engineering. Sets and probability; discrete and continuous distributions; absolute and conditional probability; discrete and continu- ous random variables; probability distribution, increment, and density functions; Chebyshev's in- equality; Laplace-Fourier transforms; law of large numbers; central limit theorems; discrete and con- tinuous stochastic processes. - Mr. Apostolakis, Mr. Meechan (F,Sp)


194A. Fundamentals of Computer-Aided Design and Manufacturing. Prerequisite: junior standing in engineering. Laplace-Fourier transforms. Course equivalent or consent of instructor. Basic course in computer-aided and manufactur- ing area. Covers foundation of computerized draft- ing, including primitives, operators, and major func- tions, as well as the data and representations of solid objects, hardware, software, and available com- ercial systems. Discusses the data processing and numerical control aspects of computer-aided manufac- turing. - Mr. Meikanoof (F)

194B. Computer-Aided Design Laboratory (1/2 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 de- sign on the graphical display. - Mr. Meikanoof (F)


196B. 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 multiproblemal modeling, multi-exponential curve fitting, and simula- tion laboratory projects. Applications in physiology and medicine. Life science and medical students are encouraged to enroll. - Mr. DiStefano (F,Sp)

199B-199G. Special Studies (1/2 to 2 courses). Prerequi- site: standing and consent of instructor. Individual investigation of a selected topic to be ar- ranged with a faculty member. Enrollment request forms are available in department offices. Occasional field trips may be arranged. May be repeated for credit.

198B. 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 Depart- ment. - (F, W, Sp)

199F. Mechanics and Structures Department. - (F, W, Sp)

199G. System Science Department. - (F, W, Sp)

Graduate Courses


298A. Seminar in Engineering (1/2 to 1 course). Prerequi- site: graduate standing in engineering, consent of instructor. Seminars may be organized in advanced technical fields. If appropriate, field trips may be ar- ranged. May be repeated with topic change.

375. Teaching Apprentice Practicum (4 to 1 course). Prerequisite: apprentice personnel employ- ment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member respon- sible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

470A-470D. The Engineer in the Technical Envi- ronment (4 course each). Limited to students in the Engineering Executive Program. Theory and applica- tion of quantitative methods in the analysis and syn- thesis 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'Neil

471A-471B-471C. The Engineer in the General En- vironment (4 course, 1/4 course, 1 course, 1/4 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 inter- action 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 (1/2 course, 1/2 course, 1/2 course, 1/2 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 472A and 472D).

Mr. Ruskin

473A-473B. Analysis and Synthesis of a Large-Scale System (1/2 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 (1/2 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.

506. Directed Individual or Tutorial Studies (1/2 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.

507B. Preparation for Ph.D. Preliminary Examination (1/2 to 4 courses). Prerequisites: graduate standing in engineering, consent of instructor. Reading and preparation for M.S. comprehensive examination. S/U grading.

507C. Preparation for Ph.D. Oral Qualifying Examination (1/2 to 4 courses). Prerequisites: graduate standing in engineering, consent of instructor. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

508. Research for and Preparation of M.S. Thesis (1/2 to 3 courses). Prerequisites: graduate standing in engineering, consent of instructor. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

509. Research for and Preparation of Ph.D. Dissertation (1/4 to 4 courses). Prerequisites: graduate standing in engineering, consent of instructor. Usually taken after a student has been advanced to candidacy. S/U grading.

---

**Chemical Engineering**

5405 Boelter Hall, 825-5423

**Professors**

Traugot H.K. Frederking, Ph.D.

Sheldon K. Friedlander, Ph.D. (Ralph M. Parsons Professor of Chemical Engineering)

Edwin 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. (Crum Professor of Medical Engineering)

**Associate Professor**

Vincent L. Vilter, Ph.D.

**Assistant Professors**

Yoram Cohen, Ph.D.

Steven M. Dinh, Ph.D.

Saeed Fathi-Afsar, Ph.D.

Owen I. Smith, Ph.D.

**Professors**

Manuel M. Baizer, Ph.D., Adjunct

Irving M. Pearson, Ph.D., Adjunct

**Lecturers**

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.

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.

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 cryogenically.


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 equivalent. 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 mixture 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 and to membrane and colloid engineering; molecular and phenomenological theories of diffusion; structure of the interface; membrane transport, facilitated transport, active transport; concentration boundary layers; turbulent diffusion.

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.

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)


Mr. Vilter (W)

238E. Corrosion Science and Engineering. Prerequisite: Engineering 137A or a course in physical chemistry or equivalent. Fundamentals of electrochemical corrosion and passivity concepts and 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 (1/2 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,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
Barbara 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, II, Ph.D.
Gerald Estrin, Ph.D.
Thelma Estrin, Ph.D., in Residence
Sheila A. Greibach, Ph.D.
Walter J. Karpus, Ph.D.
Leonard Kleinrock, Ph.D.
Allen Klinger, Ph.D.
Mr. Bussell, Mr. Cantor (F, W)
Mr. DiStefano, Mr. Estrin, Mr. Kleinrock (F)
Mr. Bussell, Mr. Karpus (Sp)
Mr. Estrin, Mr. Klinger (F, W, Sp)
Mr. Greibach, Mr. Kleinrock (F)
Mr. Karpus, Mr. Klinger (F, W, Sp)
Mr. Kleinrock (F)

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.
Michael G. Dyer, Ph.D.
Margot Flowers, Ph.D.
Eliezer M. Gafni, Ph.D.
Robert C. Uzgiris

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 non-numerical 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 (1 1/2 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 programs to solve 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 C/S functions.

99. Individual Programming Projects (1/4 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 between the abstractions provided by the computer structure and the organization of multiprocessing and multiprocessor systems; interrupts, process model, and interlocks. Resource allocation models and the problem of deadlocks. Job control and system management.

Mr. Gerla, Mr. Munz (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; queuing theory; counting; graphs; network flows; computational graph models. Examples will be drawn from the computer systems field.

Mr. Kleiner (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. Compiler Compiling 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 trade-offs. Sequential and linked storage allocation for linear lists, multitlinked 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. Ercogevac (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. Ercogevac (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 boards. 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 computer to interfaces, including multiprogramming, interrupt, and time-sharing considerations. Digital communication, remote consoles, sampling, quantizing, multiplexing, analog-digital conversion, and data reconstruction. Mr. Karplus, Mr. Levine (F,W,Sp)

171L. Real-Time Systems Laboratory (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 172. Techniques and considerations for programming digital and analog signals and systems as encountered in data acquisition, on-line computing, telecommunication facilities, terminals, modems, interfaces, and standards (e.g., ASCII). 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. Mr. Busell, Mr. McNamee (Sp)

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. Carlyle (Sp)

174. Elements of Computer Graphics. Lecture, three hours; laboratory, one hour. Prerequisite: 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 analysis. 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 123B.) Prerequisite: senior standing or consent of instructor. Selected models and languages. Formal models. Finite-state and finite-state languages. Context-free languages and pushdown store automata. Unrestricted phrase-structure languages and Turing machines. Context-sensitive languages and linear bounded automata. Context-free decision problem of automata and languages. Mr. Greibach, Mr. Parker (F,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, regular expressions, regular languages, context-free languages, pushdown automata, regular expressions, coding, computing, memory, system identification, diagnosis; design considerations. Mr. Carlyle

187. Special Studies. Prerequisites: senior standing and consent of instructor. Individual investigation of selected topic to be arranged with a faculty member in the Computer Science Department. Enrollment request forms are available in the department office. Occasional independent field trips may be arranged. May be repeated for credit. Mr. Gerla (W)

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. Mr. Estin (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. Estin (W,Sp)


215. Computer Communications and Networks. (Formerly numbered Computer Science 212C and 255A.) 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. Munz (W)

216. Distributed Multiaccess Control in Networks. Prerequisites: Computer Science 212A, 215. Topics drawn from the field of distributed control and access structures. Techniques: multiplexing; network structure; packet switching and other switching techniques; the ARFANET 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; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication protocols; network layer; routing, flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modems; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication protocols; network layer; routing, flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modems; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication protocols; network layer; routing, flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modems; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication protocols; network layer; routing, flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modems; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication protocols; network layer; routing, flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modems; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication protocols; network layer; routing, flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modems; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication protocols; network layer; routing, flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modems; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication protocols; network layer; routing, flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Mr. Kleinrock (W)

219. Current Topics in Computer System Model- ing. Prerequisites: Computer Science 112 and 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 current topics, may be repeated for credit by consent of instructor.

221. Economies 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. Melkanow (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. Melkanow (Sp)

231B. Advanced Topics in Computer Language Design. Prerequisites: Computer Science 132, 141, 151B, 212A, 228B. Treatment of current topics in computer language design and construction of modern languages, levels of abstraction, methodologies for standardization, and proposals for new problem-oriented and extensible languages. Enrollment limited to one individual per 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 and compiler techniques: high-level language semantics, information structure models, Vienna definition language, lambda calculus, LISP definition, interpreter equivalence and correctness. Mr. Berry (F)

232B. Semantics of Programming Languages. Prerequisites: Computer Science 131 and 231A. Syntax and semantics of context-free languages, Knuthian semantic 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. Franklin (F)

233A. Correctness Proofs. Prerequisites: 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. Franklin (Sp)

234C. High-Level Language Computer Architecture. Prerequisites: Computer Science 131, 212A 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 (Sp)

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 112 or management 112, 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. Munz (F,W,Sp)
SCHOOL OF ENGINEERING AND APPLIED SCIENCE / Computer Science / 335

yogy. Consent of instructor. Mr. Cardenas (W).

242A. Privacy and Security in Computer Information Systems. Prerequisite: Computer Science 111 or consent of instructor. Analysis of the technical difficul-
ties of producing secure computer information systems that allow guaranteed controlled sharing, with emphasis on software models and design. Exam-
ination and critique of current systems and prac-
tices. Possible certifiability of such systems. Relevant social issues. Mr. Popek (W).

243A. Relational Data Bases. Prerequisites: Computer Science 131, 141. The relational model of data: definition and operations; relational languages. Rela-
tional data bases: experimental and commercial; de-
sign methodology. Mr. Popper (W).

243B. Abstract Data Types and Program Specification. Prerequisites: Computer Science 141, 181. The notions of abstract data type and abstract pro-
gram specification permit one to understand how programs manipulate data, independently of their im-
plementation. These notions also give powerful techniques for program structuring and verification. The class will include programming exercises.

244. Current Topics in Data Structures (1/2 to 3 courses). Prerequisite: consent of instructor. Review of current literature in data structures in which the instructor has developed special proficien-
cy as a consequence of research interests. Students report on selected topics. May be repeated for credit.

251A. Advanced Computer Architecture. Prerequi-
sites: Computer Science 151A, 151B, and 111, or consent of instructor. Functional and structural mod-
els of computer systems. Architecture and organiza-
tion at microprogramming, machine language, and operating system level. Processor organization and system control. Arithmetic processors: algorithms and implementation. Storage system organization: hierarchy and management. Communication organi-
ization and control.

Mr. Ercegovac, Mr. Rennels (F, W)

252A. Computer Science Design: Arithmetic Pro-
cessors. 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 signifi-

cance arithmetic; redundant, signed-digit, residue number systems; error detecting codes for digital arithmetic; algorithm evaluation by analysis and sim-
ulation.

Mr. Avizienis, Mr. Ercegovac (W)

253A. Computer System Design: Fault Tolerance. Prerequisite: Computer Science 251A. Specification of fault-tolerance: fault classes, measures of reliabil-
ity. Fault masking, fault detection, and system recovery algorithms. Methodology of implementation. Ana-
ytic modeling and evaluation. Design of fault-toler-
tance systems. Tolerance of man-made faults. Fault-
tolerant software. Mr. Avizienis (F, W), Mr. Rennels (W)

253B. Advanced Topics in Fault-Tolerant Comput-
ing. Prerequisite: Computer Science 253A. Analysis and discussion of the modeling, design, and evalua-
tion of fault-tolerant computer systems. Emphasis on current research results and new systems in the stages of development and implementation. 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. Memory systems organization: access modes, hierarchies, and allocation algo-

rithms. Characteristics, system organization, and de-
vice 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, inter-
face design, bus structure, network architecture, error recovery. Task partitioning, performance opti-
mization, microprocessor based distributed processing 
systems. File allocation, directory design, deadlock,
lock, consistency, synchronization, file availability, query optimization, data translation. Examples, trade-offs, and design experiences. Mr. Chu (W)

256A. Interactive Computer Graphical. (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 Ar-
chitecture and Synthesis Methods. Prerequisite: Computer Science 252A. Advanced topics in comput-
er architecture and important properties of compu-
ter 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 con-
sent 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 (1/2 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 proficien
cy as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change.

270A. Computer Methodology: Advanced Num-
erical Methods. Prerequisites: graduate standing in computer science or engineering, and Engineering 124A or Mathematics 141B or comparable experi-
ence with numerical computing. Principles of comput-
er treatment of selected problems in algebraic and dif
erential systems, transforms and spec-
tra, data acquisition and reduction; emphasis on con-
cepts pertinent to modeling and simulation and the applicability of contemporary developments in nu-
merical software. Computer exercises.

Mr. Carlyle, Mr. Kaplun (F, Sp)

271A. Computer Methodology: Continuous Sys-
tems Simulation. Prerequisites: Engineering 124A and Computer Science 171. The organization, oper-
ation, and areas of application of analog-computer sys-
tem devices. Error analysis, numerical analysis as-
pects, digital simulation languages for continuous systems characterized by ordinary differential equa-
tions. Genesis types of physical systems control.

Mr. Kaplun, Mr. Vidal (F)

271B. Computer Methodology: Distributed Para-

teter Systems. Prerequisite: Engineering 124A. A survey of the mathematical formulation and com-
puter solution of engineering field problems governed by partial differential equations. Emphasis on digital simulation methods, including finite difference ap-
proximations, Monte Carlo methods, and the use of modern problem-oriented languages.

Mr. Kaplun, Mr. Vidal (F)

271C. Seminar in Advanced Simulation Methods (1/2 course). Prerequisite: Computer Science 271A or equivalent. Discussion of advanced topics in the sim-
ulation of systems characterized by ordinary and par-
tial differential equations. Topics include (among oth-
ers) 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. Kaplun (F, W, Sp)

273A. Digital Processing of Engineering and Sta-
tistical Data. Prerequisite: Computer Science 273A. Computer methods for processing engineering and statistical data. Algorithms to evaluate recursive filter functions, Fourier series, power spectral, analysis correl-
ation computations, and statistical testing.

Mr. McNamee (W)

274A. Problem Solving and Decision Making. (Formerly numbered Computer Science M274A.) Prerequisite: Engineering 150A or equivalent. Formal methods for mechanized problem solving. Foundations of quantitative coding of qualitative information. Theo-

dies of search, probabilities and utility. Relation be-
tween artificial intelligence and decision analysis. In-
formation 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 the role of computers in inexact knowledge bases. Rule-based systems, systems, 

Mr. Pearl (W)

274C. Computer Methods of Data Analysis and Model Formation. (Formerly numbered Computer Science M274C.) Prerequisite: Engineering 120A or comparable experience with numerical computing. Principles of comput-
er treatment of selected problems in algebraic and dif
erential systems, transforms and spec-
tra, data acquisition and reduction; emphasis on con-
cepts pertinent to modeling and simulation and the applicability of contemporary developments in nu-
merical software. Computer exercises.

Mr. Carlyle, Mr. Kaplun (F, Sp)

275. Current Topics in Cognitive Systems. (For-
merly numbered Computer Science M275.) Prerequi-
sites: consent of instructor and additional prerequi-
site determined by the department. Theory and con-
ceptualization of problem solving behavior. May be repeated for credit with topic change.

Mr. Pearl (W)

275A. Information Processes in Nervous Sys-
tems. 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. Prerequi-
site: graduate standing. Recommended: background in probability, such as Engineering 120A, Mathemat-
ics 150A. Computer methodology in the processing of large data sets. Multidimensional measurements. Adaptation and learning the mean of a normal distri-

tion. Bayesian statistics and loss functions. Learn-
ing algorithms and clustering processes. Student pro-
jects and participation in research. Mr. Klinger (F)

276B. Structural Pattern Recognition. Prerequi-
site: prior background in computer science, such as Computer Science 141, 181, or consent of instructor. Descriptive methods in computer processing of pat-
er recognition. Image processing, primitives, and formals and methods for syntactic analysis, ab-

traction, and recognition. Introductory material on some analysis and image processing. Applications to alphanumeric characters, chromosome data, and line drawings.

Mr. Klinger (W)
278C, Machine Pattern Analysis (½ course). Prerequisites: Computer Science 276A or equivalent. Advanced research topics in machine processing of patterned data. Topics in pattern recognition, image processing, artificial intelligence (e.g., scene analysis and data structure). May be repeated once for credit with topic change. Mr. Klinger (F,W,Sp), Mr. Pearl (F).

277A, Heuristic Programming and Artificial Intelligence. (Formerly numbered Computer Science 268A.) Prerequisite: Computer Science 131 or 161 or consent of instructor. Principles underlying the use of computers to perform generally non-automatable activities; the use of artificial intelligence techniques. The objective is to develop an understanding of current research regarding the possibilities and limitations of existing experiments in artificial intelligent behavior.

Mr. Klinger, Mr. Pearl (F).

279, Current Topics in Computer Science Methodology (1/4 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, Algorithmics. (Formerly numbered System Science 228CA-228CA2.) Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Selections from design, analysis, and implementation of algorithms, the general theory of algorithms, algorithms for particular application areas. Subtitled of some current sections: Principles of Design and Analysis (280A); Graphs and Networks (280G). May be repeated for credit by consent of instructor with topic change.

Ms. Greibach (Sp).

281A, Computability and Complexity. (Formerly numbered System Science 228B.) Prerequisite: Computer Science 181 (or former course 1238) or comparable 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, nondeterminism, 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. Computer Science 181. Finite-state machines, transducers, and their generalizations; regular expressions, transduction expressions, realizability; decomposition, synthesis, and design considerations in state and system identification and fault diagnosis, linear machines, probabilistic machines, applications in coding, communication, computing, system modeling, and simulation.

Ms. Greibach, Mr. Stylle (F).

284A-284Z, Topics in Automata and Languages. (Formerly numbered Computer Science 284A-284XZ.) Prerequisites: Computer Science 181 and additional prerequisites for each offering as announced in advance by the department. Selections from families of formal languages, grammar 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 1238). Models of computer programs and their syntax and semantics; emphasis on programs and recursion schemes; equivalence, optimization, correctness, and transitivity of programs; expressive power of program constructs and data structures; selected current topics.

Mr. Greibach (F).

288S, Seminar in Theoretical Computer Science (1 course). Prerequisites: Computer Science 181A, and consent of instructor. Discussion of advanced topics and current research in such areas as algorithms and complexity models for parallel and concurrent computer architecture 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 (1 course). Prerequisites: Computer Science 289 (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.

M290A, Biocybernetics I. (Formerly numbered Engineering Systems M290A.) (Same as Medicine M290A.) 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 analytical methods and their limitations, biological systems quantification (identification), experimental design and hypothesis testing, the limitations of biological data, and computational methods.

Mr. DiStefano (F).

M290B, Biocybernetics II. (Formerly numbered Engineering Systems M290B.) (Same as Medicine M290B.) Prerequisite: Computer Science M290A. Recommended: Physiology 100 or Biology 166 or equivalent. Continued development of modern systems/biocybernetic methodology and identification of biological systems. Critical survey of their application in the life sciences. The systems viewpoint of regulation in selected biological systems. Application 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 (½ to 1 course). Prerequisite: apprentice personnel may enroll as a teaching assistant, associate, or fellow. A teaching apprentice with 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.

506, 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 research problems. S/U grading.

507A, Preparation for M.S. Comprehensive Examination (½ to 1 course). 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 examinations. S/U grading.

507B, Preparation for Ph.D. Preliminary Examinations (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. 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 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. candidate, including thesis prospectus. S/U grading.

599, Research 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.
Graduate Courses


210A. Advanced Circuit Theory I. Prerequisites: Engineering 110E, 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).


210D. Active, Passive, and Digital Filters. Prerequisite: Electrical Engineering 210C or consent of instructor. Approximation theory and realization theory of active filters. Electromechanical filters. Active filters with lumped and/or distributed elements. Switched and digital filters. Mr. Orchard, Mr. Temes (Sp).


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. Review of quantum mechanics, including wave functions, properties of the wave function, time evolution, perturbation theory, and the energy spectrum. Mr. Chen (W).

213B. Advanced Microwave and Millimeter-Wave Systems. Prerequisite: Mechanical Engineering 135A or consent of instructor. Microwave and millimeter-wave systems. Introduction to modern microwave theory. Mr. Chen, Mr. Luhmann (Sp).

214A. Plasma Waves and Instabilities. Prerequisites: Engineering 100B and M118B. Wave phenomena in plasmas described by the macroscopic fluid equations. Emphasis on homogeneous plasmas in uniform magnetic fields. Microwave propagation, plasma oscillations, wave coupling and damping, ion acoustic waves, cyclotron resonance, plasma oscillations. Plasma requirements for conduction, heating. Mr. Chen, Mr. Luhmann (W).

214B. Advanced Plasma Waves and Instabilities. Prerequisites: Engineering M118B and Electrical Engineering 214A or Physics 222A. Interaction of intense electromagnetic waves with plasmas: waves in inhomogeneous and bounded plasmas, nonlinear wave phenomena, anomalous resistivity, shock waves, echoes, laser heating. Emphasis on experimental considerations and techniques. Mr. Chen, Mr. Luhmann (Sp).


214D. Fusion Reactor Analysis. (Same as Mechanics and Structures M251.) Prerequisite: Engineering M118B or consent of instructor. Fusion reactors, 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 multiaxial hydrodynamics, and kinetic theory models. Driven reactor plasmas. Atomic radiation processes and plasma-wall interactions. Radiation damage, microinstabilities. Mr. Chen (Sp).

214E. 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 concepts of magnetic fusion reactors. 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. Recombination mechanisms and transport properties. Mr. Pan (F).

215B. Solid-State Electronics II. Prerequisite: Electrical Engineering 213A or consent of instructor. Optoelectronic devices: injection lasers, photodetectors, solar cells, field effect transistors, and LED. 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, microtransistors. 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 (W).

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. Op-amp amplifiers, improved input impedance and slew rate, pole-zero compensation, circuit design techniques for optimum SNR. Voltage multipliers, D/A and A/D 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, design, synthesis, implementation) of MSI, LSI, and VLSI logic elements: bistables, flipflops, registers, counters, PLAs. VLSI memories (ROMs, RAMs, CCDs, bubble memories, EPRoms, EEPROMs) and VLSI systems (microcomputers, FAs, ASICs, etc.). Mr. K. Martin (Sp).

216C. Advanced Circuit Design. Prerequisite: Electrical Engineering 213A, Electrical Engineering 116E. Advanced integrated circuit and system considerations: optimization and high-frequency effects, yield, reliability. Competing integrated circuit technologically superior materials and circuit design; speed, memory functions, hardware/software trade-off. Integrated circuit design project. Mr. K. Martin (Sp).

216D. Microwave Amplifiers. (Formerly numbered Electrical Sciences and Engineering 216A.) Prerequisite: Engineering 117A or consent of instructor. Linear and non-linear microwave amplifiers. Theory of microwave transistors, characteristics, and equivalent circuits at microwave frequencies. Two port networks, activity and stability. Matching networks with lumped and/or distributed components. Commensurate matching networks. Linear amplifier design. Narrow band, broad band: input-output interactions. Optimum design approach, graphical approximations, synthesis, and optimization. Mr. Willis (W, even years).

216E. Communication Feedback Circuits. (Not the same as Electrical Engineering 216E prior to Fall Quarter 1982.) Prerequisites: Engineering 110B, and 110D. 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.


217C. Microwave Circuits. Prerequisite: Engineering 117A. Transmission lines; microstrip; waveguides; strip line and microstrip. Microwave transistor networks; scattering and immittance matrices; devices. Inhomogeneously filled guides. Surface guides. Excitation of guided waves. Periodic structures and filters. Mr. Elliott, Mr. Schott (Sp).

Engineering Systems

7619 Boelter Hall, 825-8486

Professors

John A. Dracup, Ph.D.
John H. Lyman, Ph.D., Chair
Herbert B. Nottaway, Ph.D.
Philip F. O'Brien, M.S.
Michael K. Stenstrom, Ph.D.
Russell R. O'Neill, Ph.D.
Richard L. Perme, Ph.D.
Allan B. Rosenstiel, Ph.D.
Moshe F. Rubinstein, Ph.D.
Allan R. Stenberg, Ph.D.
William G. Yeh, Ph.D.
Ralph M. Barnes, Ph.D., Emeritus
Edward P. Coleman, Ph.D., Emeritus
James M. 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.
Norman C. Dalkey, Ph.D., Adjunct
Amos Freedy, Ph.D., Adjunct
Don Lebel, 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. Pfeifer, Ph.D., Visiting

Graduate Courses

270A. Synthesis of Industrial Engineering Sys-
tems. Prerequisites: design background and Engi-
neering 173, or equivalent. The logic and quantitative
formulations for the transdisciplinary design of engi-
neering systems meet advanced industrial requi-
sites in productivity, profitability, environments, and
resource conservation. Facilities, energy, processes,
equipment, operations, cost-benefit, and safety con-
siderations. Application areas vary from year to year.
Mr. O'Brien

274J. Multiatribute Decision Making with
Conflicting Objectives. Prerequisite: Engineering
174A or Computer Science 274A or equivalent. The
structuring of models for multiatribute decision prob-
lems. The theory of quantifying preferences over mul-
tiple objectives. Multiatribute utility theory. The struc-
turing of models for conditional strategies under con-
flict situations. The theory of metagames and metara-
ttaphilosophical problems. 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, socio-
technical systems. Mathematical representations of
interpretable 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. Rubenstein (Sp)

275A. Computer-Aided Design. Prerequisite:
Engineering 108B or equivalent. Seminar in com-
puter-aided design of engineering systems and products.
Organization of the design process, its decision
points, and backup information for automatic ma-
chine processing of the specifications to provide full
design data for a family of products.
Mr. Roserstein

277A. Advanced Engineering Economics I.
Prerequisites: Engineering 177A and 177B or equivalent
or consent of instructor. Conceptual development of
investment decisions. Advanced theory of capital and its
relationship to economic growth. Role of technology in
developmental strategies. Long-run investment and
project costs. Physical analogy to Walras' model.
Mr. Dracup (F)

277B. Advanced Engineering Economics II.
Prerequisite: Engineering Systems 277A or equivalent or consent of instructor. The economics of
engineering and social systems. Long-range invest-
ment concepts. Physical analogy to Walras' model.
Mr. Dracup (F)

278A. Advanced Biotechnology. Prerequisite:
Engineering 180A or 180B or consent of instructor. Re-
view and analysis of contemporary biotechnology
research which bears on problems of engineering com-
ponent and system design. Emphasis is on method-
ological and scientific factors underlying man-
machine-environment interactions.
Mr. Lyman, Mr. O'Brien (W)

280B. Advanced Biotechnology. Prerequisite: Engi-
neering 180A or 180B or consent of instructor. Spe-
cialized coverage of "human factors" and "human
engineering," with orientation toward obtaining de-
sign optimization of the functions of humans in rela-
tion to engineering parameters of environment, com-
munication systems, etc.
Mr. Lyman (Sp)

284A. Surface Water Hydrology. Prerequisite: Engi-
neering 184A or consent of instructor. In-depth study
of the surface water components of the hydrologic
system. Instantaneous units hydrograph, dynamic
waves equations, rainfall excess, flow systems design,
investigation and physical hydrology. Stochastic hy-
drology: time-series analysis, Markovian streamflow
models, and generation of multivariate synthetic streamflows. Applications.
Mr. Dracup, Mr. W. Yeh (W)

284B. Groundwater Hydrology. Prerequisite: Engi-
neering 184A or consent of instructor. Theory of the
movement and occurrence of water in subterranean
aquifers. Steady flow in confined and unconfined
aquifers. Mechanic Yu, steady and unsteady
methods. Applications.
Mr. Dracup, Mr. W. Yeh (Sp)

284C. Water Resources Systems Engineering.
Prerequisite: Engineering 184B. Application of math-
ematical programming techniques to water resources
systems. Topics include reservoir regulation, optimal
timetable, water management, and pricing of water
resources; project analysis, and real-time conjunctive
operations of ground water and surface water 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,
biochemical 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 chemis-
ty; bacteriology and immunology; reservoir, stream, es-
tuary, and ocean outfall management; water quality
modeling. Field trip.
Mr. Stenstrom (W)

284E. Saline Water Conversions. Prerequisites:
Engineering 137A and chemistry 110A and 110B, or
equivalent. Current research and development in sa-
line water conversion, in the fields of distillation, elec-
rodialysis, freezing, reverse osmosis, and chemical
extraction. A study of process optimization and eco-
nomics of combined water power systems.
Mr. Stenstrom (W)

284F. Selected Topics in Water Resources:
Prerequisite: graduate standing, consent of in-
structor. Review of recent research and develop-
ment in the management of water resources. Water
and hydroelectric supply systems. Water quality man-
agement. Water law and institutions. Economic plan-
ing and optimization of water resources develop-
ment. May be repeated once for credit.
Mr. Dracup (F)

284G. Engineering Economics of Water and
Related Natural Resources. Recommended prerequi-
tes: one or more courses from Economics 1, 2, 100,
101, and 128; Chemical Engineering 18B, or consent of instructor. Economic
theory and applications in the management of water and related natural resources; application of price
to water resource management, electric power supply, petroleum and natural gas management, and
mineral exploration; benefit-cost analysis with ap-
lications to water resources planning.
Mr. Dracup (F)

284H. Mathematical Models for Water Quality
Management. Prerequisite: Engineering 184D. De-
evelopment of mathematical models relating pollutant
inputs to water quality. Scheduling of treatment plant
capacity expansion. Regional water quality system
models. Emphasis is on use of analytical and simula-
tion techniques to manage water quality in streams,
lakes, and estuaries.
Mr. Stenstrom (Sp)
Materials Science and Engineering

6531 Boelter Hall, 825-5534

Professors

Alan J. Ardell, Ph.D., Chair
Roiant F. Buresh, D.Sc.
David L. Douglass, Ph.D.
William J. Knapp, Sc.D.
John D. Mackenzie, Ph.D.
Karel Ono, Ph.D.
Aly H. Shabaik, Ph.D.
George H. Sines, Ph.D.
Christian J. N. 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.

Graduate Courses


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.


243C. Distributions and Strengthening Mechanisms in Solids. Prerequisite: Engineering 143A or 158A. Elastic and plastic behavior of crystals, the geometry, mechanics, and interaction of distributions in crystals, mechanisms of yielding, work hardening, and other strengthening.

244. Electron Microscopy. Prerequisite: Engineering 145B or equivalent. Essential features of the electron microscope, geometry of electron diffraction, kinematical and dynamical theories of electron diffraction, including anomalous absorption, applications of theory to defects in crystals. More fringes, direct lattice resolutions, Lorentz microscopy, laboratory applications of contrast theory.


246A. Mechanical Properties of Nonmetallic Crystalline Solids. Prerequisite: Engineering 146A. Mechanical 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.


247C. Advanced Solidification. Prerequisites: 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; interfacial morphology; eutectic growth; determination of phase diagrams. Students report on current topics in solidification.

Mr. Yue (Sp, odd years)
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. Chanwat, Ph.D.
Julian D. Cole, Ph.D.
Robert W. Conn, Ph.D.
Vijay K. Dhir, Ph.D.
Stanley B. Dong, Ph.D.
Stevie Dubowsky, Sc.D.
Kurt Forster, Ph.D.
Michael E. Fourney, Ph.D., 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.

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.


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, and dispersion in nonabsorbing and absorbing media. Applications to industrial, aerospace, energy conversion, and environmental problems. Mr. Catton (Sp)


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, separation, and radiation. Gradient temperature. Chemical reactions, electrothermal, and magnetic fields. Mr. Catton (W)


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)

232A. Advanced Mass Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 232A). 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)


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 transfer in heat pipes, thermal environment control, spacecraft temperature control, and solar thermal conversion. Mr. Catton (W)

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; PN, SN, and analysis. The use of variational methods or 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 analysis of nuclear reactor reactivity and reactor kinetics; fundamental techniques, analytical methods, and numerical methods. A synthesis of reactor physics and engineering, with applications to various systems.

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 reactivity and reactor kinetics; fundamentals of the 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.

239B-239FZ. Special Topics in Transport Phenomena (1/2 to 1 course each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239B-239FZ.) Prerequisites: 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.

239DA-239DZ. Seminar: Current Topics in Nuclear Engineering (1/2 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 (1/2 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 the catalog. May be repeated for credit with topic change.

239GA-239GZ. Special Topics in Nuclear Engineering (1/2 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 the catalog. May be repeated for credit with topic change.

239H. Modeling of Reactor Systems. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239H.) (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239FA-239FZ.) Prerequisites: consent of instructor. A study of the methods of modeling reactor systems and the analysis of the results of these models.

250. Principles of Magnetic Confinement Fusion. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 250.) Prerequisite: Engineering 135B. Safety-related characteristics of the plasma and magnetic field; plasma confinement and stability; plasma-wall interactions; tokamak and magnetic mirror confinement systems; and safety-related aspects of fusion power reactors. May be repeated for credit with topic change.

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 fluid, potential flow, and viscous flow are treated. The history of fluid dynamics is illustrated, with problems drawn from mechanics, aerodynamics, and geophysics.

Mr. Pomraning (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. Methods of characteristics; small disturbance theories (linearized and hypersonic); shock dynamics.

Mr. Charwat (Sp)

250D. Fluid Dynamics of Reactor Systems. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 250D.) (Same as Electrical Engineering 250D.) Prerequisite: Engineering 135B or consent of instructor. Fusion reactors, both magnetic and inertial. Operating conditions, power balance, system Q. Design for inertial confinement magnetic 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. Liu (Sp, even years)

M232. Fusion Reactor Technology and Design. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 232.) (Same as Electrical Engineering 232.) Prerequisite: Engineering 135B. (Formerly numbered Chemical, Nuclear, and Thermal Engineering M214E.) Prerequisite: Engineering 135A or consent of instructor. Fusion reactors, both magnetic and inertial. Operating conditions, power balance, system Q. Design for inertial confinement magnetic 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)

M251. Fusion Reactor Analysis. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 251.) Prerequisite: Engineering 135B. (Same as Electrical Engineering 251D.) Prerequisite: Engineering M145 or consent of instructor. Fusion reactors, both magnetic and inertial. Design of nuclear fusion systems for energy production. May be repeated for credit with topic change.

Mr. Pomraning (W)

SCHOOL OF ENGINEERING AND APPLIED SCIENCE / Mechanics and Structures / 341

238. Advanced Mechanical Engineering. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 238.) (Formerly numbered Chemical, Nuclear, and Thermal Engineering 238E.) Prerequisites: at least four courses in Mechanics and Structures 233A, 235A, 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)
UCLA's experimental fusion machine is a crucial step toward the development of an unlimited energy source.
SCHOOL OF ENGINEERING AND APPLIED SCIENCE / Mechanics and Structures / 343

253B. Fundamentals of Aeroacoustics. Prerequisite: Engineering 156A or consent of instructor. Detailed discussion of plane waves, point sources. Non-linearity, layered and moving media, multiple reflections. Inhomogeneous wave equation. Monopole, dipole, and quadrupole sound sources; inhomogeneities and turbulence; Lighthill's theory; moving sources. Similarity methods. Selected detailed applications. Mr. Meecham

253C. Sound and Vibration. Prerequisite: Engineering 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 equations of motion for deformable solids; geometrical 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 nonlinearity 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 energy, 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; dynamical problems. Mr. Mal (F)

256B. Elasticity. Prerequisite: Mechanics and Structures 256A or consent of instructor. Formulation of elastostatic problems with plane and axisymmetric stress. Reciprocal theorems and variational theorems. Airy's stress function and Papkovich-Neuber solution. Fundamental singular solutions, stress concentration, thermoelasticity: incremental strain, load transfer, St. Venant'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, 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. Recommended: fundamentals of linear fracture mechanics, elementary stress analyses; analytical and numerical methods for calculation of crack tip stress intensity factors; engineering applications in stiffened structures, pressure vessels, and shells. Mr. Westmann (Sp, odd years)

257A. Elastic Wave Propagation I. (Same as Earth and Space Sciences M224A.) Prerequisite: Engineering 156A 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)

257B. Elastic Wave Propagation II. (Same as Earth and Space Sciences M224B.) Prerequisite: Mechanics and Structures 252, or consent of instructor. Direct energy formulations for deformable solids; solution methods for linear equations; analysis of structural systems with one-dimensional elements; introduction to variational calculus; discrete element displacement methods of unbounded, periodic, and shell structures; instability effects. Mr. Dong (W)

257C. Nonlinear Structural Analysis. Prerequisite: Mechanics and Structures 256B or consent of instructor. Classification of nonlinear effects; material nonlinearities, geometric nonlinearities, conservative material behavior; geometric nonlinearities, Lagrangian, Eulerian description of motion; finite element methods in geometrically nonlinear problems; postbuckling behavior of structures; solutions of non-linear equations; incremental, iterative, programming methods. Mr. Nelson (Sp)

257A. 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)

262A. Advanced Mechanics 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 emphasized. A broad group of example systems is studied. Mr. Yang (Sp, even years)

263A. Dynamics and Control of Machines and Electromechanical 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 emphasized. A broad group of example systems is studied. Mr. Yang (Sp, odd years)

263B. Topics in Modeling and Dynamics of Aerospace Vehicles. Prerequisite: 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 models. 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 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, including bending. Mr. Roberts (W)

264A. Advanced Structural Analysis. Prerequisite: Engineering 165B. Review of elasticity theory; theorem on stress intensity factors; 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 method. Mr. Nelson (F)

265B. Finite Element Analysis of Structures. Prerequisites: Engineering 166 and Mechanics and Structures 252A, or consent of instructor. Direct energy formulations for deformable solids; solution methods for linear equations; analysis of structural systems with one-dimensional elements; introduction to variational calculus; discrete element displacement methods of unbounded, periodic, and 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, geometric nonlinearities, conservative material behavior; geometric nonlinearities, Lagrangian, Eulerian description of motion; finite element methods in geometrically nonlinear problems; postbuckling behavior of structures; solutions of non-linear equations; incremental, iterative, programming methods. Mr. Nelson (Sp)

265A. Mechanics and Structures 265A or 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

265B. 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)

265A. Special 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

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)


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 design 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). More analysis, photoelasticity and speckle interferometry. Mr. Fournier

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, and design of effective life of environmental effects. Emphasis on current problems in actual structures. Mr. Sines (F, even years)

268A. 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)
289B. 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)

289C. 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 away of buildings, gust response, vibrations due to gearing inaccuracies, train vibrations. Mr. Hart (Sp, even years)

289D. 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 aerodynamic loads from governing variational principles. Flow induced instability and response of structural systems. Mr. Friedmann (Sp, odd years)


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 195A. 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 265A. 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)


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 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 emphasis on application to 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 195A or Mechanics and Structures 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 resistant design of buildings, bridges, and dams. Theory and field experiments. Mr. Seils (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 evaluation of contemporary design standards. Limitations due to idealizations. Mr. Rea (Sp)
System Science

4532 Boelter Hall, 825-6830

Professors

Masanao Aoki, 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.
Ishak Rubim, 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.

Assistant Professor

George J. Ruzicza, Ph.D.

Assistant Professor

Thomas M. Simundich, Ph.D.

Graduate Courses

200A. Linear Dynamic Systems. (Formerly numbered System Science 228A.) Prerequisite: Engineering 120B or consent of instructor. Introduction to the analysis of dynamic systems. Deduction of state spaces from input-output data. State controllability and observability. Stability and state feedback stabilizability; state observer.

200B. Nonlinear Programming. (Formerly numbered System Science 272B.) Prerequisite: System Science 272A or equivalent. Basic graduate course in nonlinear programming. Convexity and functions and their basic properties. Kuhn-Tucker conditions, saddle point, and nonlinear conjugate duality theory. Development of algorithms and convergence theory.

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.

200D. Discrete Stochastic Processes. Prerequisite: Engineering 120A or equivalent or consent of instructor. Discrete dynamic systems involving Poisson counting processes, renewal point processes, discrete-time Markov chains, Markov jump processes; applications to communication systems and networks, queuing systems, information processing and control and operations research.

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.

222A. 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.

222B. Stochastic Theory of Queueing Systems II. Prerequisite: System Science 222A. Advanced topics in queueing theory and systems; transient behavior, virtual waiting time and busy period, integral equation methods, series of queues and priority queues. Inventions, communication, control, and systems problems.

222C. Optimal Control. Prerequisite: System Science 222A. Applications of variational methods. Pontryagin's maximum principle, dynamic programming and nonlinear programming to problems of optimal control theory and applications.

222D. Nonlinear Control. Prerequisite: System Science 222A. Techniques for studying nonlinear control systems, with emphasis on their stability; Liepunov's direct method; input-output stability; Popov's method; linearization.

222E. Algebraic Coding Theory. Prerequisite: System Science 227B or consent of instructor. Fundamentals of algebraic codes and decoding algorithms based on linear codes, cyclic codes, Hamming, Reed-Muller, Bose-Chaudhuri-Hocquenghem, and Reed-Solomon codes, and corresponding decoding algorithms.

222F. Hybrid Control Systems. Prerequisite: System Science 222A. Estimation and control of linear discrete-time and continuous-time stochastic systems; separation theorem and applications; Kalman filtering.

222G. Control and Coordination in Economics. (Same as Economics M240.) Prerequisites: graduate standing in economics or political science, consent of instructor. Recommended: appropriate mathematical background. Stabilization policies, short- and long-run dynamics and stability analysis; decentralization, coordination in teams; certainty equivalence and separation theorems; structural and learning models. Bayesian approach to price and output rate adjustment.

222H. Control Theory and Coding. 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.

222I. Information Theory and Coding. Prerequisite: System Science 222B. Information and coding from the viewpoint of digital communication systems; digital transmission and block coding; linear codes; convolutional codes, maximum likelihood decoding, and sequential decoding; ensemble error performance bounds of block and convolutional codes.

222J. Estimation and Filtering. Prerequisite: Engineering 120B or equivalent. System Science 227B. Methods of determination of optimal statistical estimators applied to problems in stochastic processes, communication systems, analog modulation and communication theory.

222K. Applications of Queueing Systems. (Same as Mathematics M274B.) Prerequisites: Engineering 120A or consent of instructor. Introduction to the application of control theory to the modeling and analysis of biological control systems, such as the respiratory system, cardiovascular system, and learning models. Topics in emphasis on solving problems of current interest in biomedicine.

222L. Information Theory and Coding. Prerequisite: System Science 222B. Information and coding from the viewpoint of digital communication systems; digital transmission and block coding; linear codes; convolutional codes, maximum likelihood decoding, and sequential decoding; ensemble error performance bounds of block and convolutional codes.

222M. Stochastic Control. Prerequisite: System Science 217B. Stochastic estimation and control of linear discrete-time and continuous-time linear systems; separation theorem and applications; Kalman filtering.

222N. Statistical Decision Theory. Prerequisite: System Science 222B. Estimation and control of linear discrete-time and continuous-time stochastic systems; separation theorem and applications; Kalman filtering.

222O. Stochastic Control. Prerequisite: System Science 222B. Estimation and control of linear discrete-time and continuous-time stochastic systems; separation theorem and applications; Kalman filtering.
227G. Rate Distortion Theory and Data Compression. Prerequisites: System Science 227 or consent of instructor. Sources and distortion measures, rate distortion and its evaluation for discrete and continuous sources, source coding theorems, block and trellis source encoding techniques, and application to data compression. Study 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, 227S, or consent of instructor. Performance analysis of models 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 and wide area networks 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 functions. 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 272B, 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

229E-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 theorems. Duality theory. Geometric theory of linear programs. Parametric programming. Special structures such as decomposition and dual switching problems. Complementary pivot theory. Quadratic programming. Mr. Jacobsen, Mr. Subelman (F)

272B-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 (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 infinite horizon model. Methods of solution. Detailed examples from inventory theory, finance, and transportation systems. Mr. Jacobsen, Mr. Miller, Mr. Subelman (W, 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 martingales 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 394A, 394B. 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 orthogonal 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, strength-stress and safety considerations in engineering design. Statistical problems, current topics. Mr. Miller, Mr. Subelman (Sp)


375. Teaching Apprentice Practicum (%1 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)
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.

Architecture/Urban Design

B315 Architecture, 825-0525, 825-7857

Professors
Marvin Adelson, Ph.D.
Samuel Aronit, Ph.D.
Baruch Givoni, Ph.D.
Thomas 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 Liggli, 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

Degrees Offered
Architecture/Urban Design ............................................. M.Arch. I, M.Arch. II, M.A., Ph.D., Certificate of Specialization
Urban Planning .......................................................... M.A., Ph.D.

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: 558A

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 specialized 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 courses offered campuswide. If you require greater interdisciplinary study, consent may be granted by the curriculum committee to increase this number.
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.
350 / Architecture/Urban Design / GRADUATE SCHOOL OF ARCHITECTURE AND URBAN PLANNING

(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 the principles of each. Students should make this determination at least three months prior to the anticipated date of 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.)

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.

Graduate Courses

201A. Architectural Theory (1½ to 2 courses). 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. 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.

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 (1½ to 2 courses). Lecture, three hours. Seminar on topics in the built environment selected by the faculty. May be repeated for credit.

225A. 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 also provides an introduction to computer-aided mapping techniques. No prior knowledge of computing is required. Ms. Liggett

225B. Computer Applications in Architecture and Urban Planning (Advanced). Lecture, 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 lectures/seminars on technical topics, plus intensive practical work conducted on two storage-tube graphics terminals.

Ms. Liggett, Mr. Mitchell (F)

227A. Computer Graphics. Discussion, three hours. Prerequisite: consent of instructor. A survey of applications of computer systems for aiding drafting, analysis, and design. Students will be exposed to the basic principles of computer graphics and their application to architecture. May be repeated for credit. Ms. Liggett, Mr. Mitchell (W)

229A. 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. Ms. Liggett, Mr. Mitchell (W)

229B. Research in Design Methods. Discussion, three hours. Prerequisite: consent of instructor. An introduction to the major issues in the development of methods for aiding design. Topics include artificial intelligence, self-organizing systems, and hardware capabilities and limitations. An attempt will be made to develop and test components of a design system. Ms. Liggett, Mr. Mitchell (W)

255. Urban Morphology. Lecture, three hours. Prerequisite: consent of instructor. A discourse on spatial form and its socioeconomic and behavioral consequences. Discussion, three hours. Prerequisite: consent of instructor. Selected topics in architectural and urban systems. Documentation and project work. Focus 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)

256. Research in Urban Structure. Lecture, three hours. Prerequisite: consent of instructor. A discourse on urban structure 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 1 course). Concepts for analyzing 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 specific to the student's field: zoning, 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. Kammntzer

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 semester.

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. Emphasis of each design and the development of the urban environment, particularly the cultural contexts. Mr. Aroni (Sp)

276. History of Specific Building Types. Lecture, this course stresses the political and 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

281. Introduction to the History of the Built Environment. Lecture, three hours: discussion, two hours. A study of a variety of research methods applicable to problems on the human-environment interface, including those now frequently employed (survey research) and others not so well known (sociocultural, psychological, ethnographic, and methodology). The course will emphasize the application of research methods to selected exercises and specific field situations.

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 the context of the cultural contexts. Mr. Aran

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 aspects are emphasized in the development of a program for the thesis.

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

293. 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

294. Social Analysis of Buildings and Settings. Prerequisite: consent of instructor. The class will continue to work on a group project begun in Language, 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

295. 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. Students are introduced 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 activities of bankers, builders, and homemakers.

Ms. Hayden

296. 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, 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

297. 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, in response to the perceptual development, and studies of adaptation to the spatial order of the human-made environment.

Mr. Rand

298. Application of Behavioral Research to the Design Process. Lecture, three hours. Prerequisite: course 281 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 is on problem definition, the generation of meaningful research information, and understanding the results, iterative approaches to the research/design interface, and novel ways of presenting design ideas. May be repeated for credit.

299. Application of Behavioral Research to the Design Process (Sp). Lecture, six hours. Prerequisite: course 281 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 is on problem definition, the generation of meaningful research information, and understanding the results, iterative approaches to the research/design interface, and novel ways of presenting design ideas. May be repeated for credit.

401. Projects in Architecture. Laboratory, three hours. Prerequisite: consent of instructor. Students may choose from a number of different projects in relevant problem areas 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 offered by faculty members. May be repeated for credit. (F,W,Sp)

403. Project Studio with Specific Topic (½ to 1 course). Studio, eight hours. Prerequisite: prior courses of particular sequence or consent of instructor. May be repeated for credit.

405A. Projects in Systems Building

405B. Projects in Energy Conserving Design

405C. Projects in Man-Environment Relations

405D. Projects in Educational Facilities

405E. Projects in Housing

405F. Projects in History

405G. Projects in Design Methodology

405H. 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 more specific exercise, an experimental study 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 devoted to the design of a small building in which previously acquired knowledge is synthesized into a single design.

412. Building Design Studio. Studio, twelve hours. Prerequisite: course 411 or consent of instructor. The design of the project studio involves the composition 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 the student is encouraged and further develop the intended forms and concepts.

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 the natural landscape, with special attention to natural light, heat, and ventilation.

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 control, physical context, and the cultural environment in design of buildings and to present their ideas in graphic or model form.
415. Major Building Design II. Studio, twelve hours. Prerequisite: course 414. Design projects which enable students to concentrate on specific architectural issues, with emphasis on treatment in breadth of large-scale projects or exploration in depth 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, diagrammatic drawing, drafting techniques, introduction to axonometric projection and perspective. (F)

422. Advanced Architectural Drawing (1/2 to 1 course). Discussion, three hours; laboratory, three hours. Prerequisites: course 420 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. (F)

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 deflection relations. Theories of bending: curvature, stress and strain distributions, centroid, moments of inertia, resisting and plastic moments. Design of beams for bending, shear, and deflection. Torsion members. Instability and design of columns. Design of 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)


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 similar design team will be defined 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. (W)

439. Methods in Building Systems Development. Base for open building systems: reference system, components, freedom of configuration, modular coordination. In-depth study of past and present research and developments, such as SCSD, SAR.

441. Environmental Control Systems. Lecture, three hours. Prerequisite: Basic Physics, 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, mechanical 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. Prerequisite: basic physics, 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. Prerequisite: course 442, consent of instructor. The course will analyze the different passively integrated groups of 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 flows and 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 context of CEC/COM 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.

481. 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.

491. Special Projects in Architecture (1/2 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 (1/2 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 (1/2 to 2 courses). May be repeated for credit.

598A. Preparation in Architecture/Urban Design for Master's Thesis (1/2 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.P.
Peter Marrs, 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.

Assistant Professors
Robin Liggott, Ph.D.
Rebecca Morales, M.A.

Lecturers
Berje Aroni, 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 social elements. The creation and management of the urban environment is increasingly being approached in concert with private companies and government agencies. The Urban Planning Program at UCLA 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.

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:

1. Urban and Regional Development
2. Social Policy and Public Services
3. Natural Environment and Resources
4. The Built Environment

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

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 semi-publicly. 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.

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).

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 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 practical or "real world" experience in planning, 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.

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.

The Latin American Studies Program and the Urban Planning Program offer a 21/2- to 3-year articulated degree 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 ethnographic methods, 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 59TP.

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 (1/2 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.


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 (1/2 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. Friedman 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)

202A. Public Control of Land Development (4 to 5 courses). (Same as Law M266.) 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 control, public acquisition of land, tax controls, and urban development. Mr. McGee

202B. Governance: State, Regional, and Local (1 to 2 courses). (Same as Law M265.) 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. Mr. Heron

202C. Seminar: Urban Affairs (4/2 courses). (Same as Law M262.) 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 in preserving the problem that client is facing and remains available through the course of the project for consultation; the end product for each case is the presentation of a formal report. Clients include the City Planning Commission, the Environmental Quality Board, the Housing Authority, and others. Mr. Heskin

205C. 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, 1/2 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 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.

209. Special Topics in Planning Theory (1/2 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 creative arts. We will examine the role law in 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 faculty 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 long-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

215A. 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
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)


Mr. Soja (F)

226B. Special Topics in Urban Planning II. See listing under "Architecture/Urban Design.

Mr. Soja (W)

227. 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), comparative studies in the geography of development, and a detailed assessment of some current African regional development plans. Generally taken in the second year.

Ms. Morales, Mr. Soja (F)

228. 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 context of a world economy. 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 poverty, 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)

229. Special Topics in Urban Planning. Lecture, three hours. Prerequisites: courses 207, 236A. A seminar focusing on local economic development, meaning job creation, job retention, and various forms of income redistribution for the purposes of developing or stabilizing a community's economy. Reasons for and measurement of unemployment and improvement, 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 conditions, economic development planning; incentives for private enterprise investment; alternative institutions for local economic development; and financing public and private investment.

Ms. Morales (W)

230. 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, and various forms of income redistribution for the purposes of developing or stabilizing a community's economy. Reasons for and measurement of unemployment and improvement, 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 conditions, economic development planning; incentives for private enterprise investment; alternative institutions for local economic development; and financing public and private investment.

Ms. Morales (Sp)

231. Urban and Regional Economic Development III. Discussion, three hours. Prerequisites: courses 230A, 230B. An advanced seminar for students wanting to design or critically evaluate programs for economic development in cities and regions. 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)

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 evolution of the urban political structure, decentralization and 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), 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

235. 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
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

248. Special Topics in Social Policy and Public Services (1 1/2 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. Grigsby

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 design; data collection; data analysis and interpretation; and time management of a research study. 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.

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.

261B. Environmental Management: Politics and Institutions. Lecture, three hours. Plans 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.

264. Environmental Law and Policy (½ 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.

265. 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.

266. 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.

267. 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.


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 non-physical forces on the physical environment. Development of presentation skills, both graphic and verbal, is an essential component of this workshop.

278. Research Methods in Human-Environment Relations (½ to 1 course). 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.


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 advisor 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.
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. Asin, Ph.D.
Helen S. Asin, Ph.D.
Eva L. Baker, Ed.D.
Gordon L. Berry, Ed.D.
Nicholas Burton Jones, Ph.D.
James E. Bruno, Ph.D.
Burton R. Clark, Ph.D., Allan M. Carter Professor of Higher Education
Arthur M. Cohen, Ph.D.
Sol Cohen, Ph.D.
Charlotte A. Crabtree, Ph.D.
Aimee Dorr, Ph.D.
Lorraine M. Sherer, Ed.D.
Clarence Fielstra, Ph.D.
Claude W. Fawcett, Ph.D.
Aimee Dorr, Ph.D.
W. James Popham, Ed.D.
John D. McNeil, Ed.D.
Thomas J. LaBelle, Ph.D.
Charlotte A. Crabtree, Ph.D.
Donald A. Erickson, Ph.D.
George F. Kneller, Ph.D.
Lamar Johnson, Ph.D.
Wilbur H. Jones, Ph.D.
Jesse A. Sheets, Ed.D.
John 1. Goodlad, Ph.D., L.H.D., LL.D.
James E. Bruno, Ph.D.
Geoffrey Saxe, Ph.D.
David O'Shea, Ph.D.
W. James Popham, Ed.D.
Mahlon O. Bond, Ed.D.
Paul H. H. Dutton, Ed.D.
Robert Lamborn, Ed.D.
Sol Cohen, Ph.D.
Lynne C. Monroe, Ed.D.
Erick L. Lindman, Ph.D.
Dorothy M. Leahy, Ed.D.
David F. Jackey, Ph.D.
Jack Ender, Ph.D.
Burtis Taylor, Ed.D.
Barbara K. Keogh, Ph.D.
C. Wayne Gordon, Ph.D.
Frank M. Hewett, Ph.D.
Even R. Keisler, Ph.D.
Barbara K. Keogh, Ph.D.
Frederick C. Kittner, Ed.D.
Marilyn H. Kurz, 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. Wexler, 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.
Dorothy M. Leahy, Ed.D.
Erik L. Lindman, Ph.D.
William H. Lucio, Ph.D.
Lynne C. Monroe, Ed.D.
Robert Pace, Ph.D.
Rosemary Park, Ph.D., LL.D., Litt.D., L.H.D.
Paul H. Sheetz, 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.

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 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 Educational Studies in Education
Comparative and International Education — 204A, 204B, 204C, 204D, 204E, 204F, 253A, 253B, 253C, 253D, 253E, 253F, 253G, 253H

Area II — Educational Psychology

Area III — Instructional Leadership and Administration

Area IV — Educational Research and Evaluation

Area V — Comparative Studies

Area VI — Special Education

Area VII — Science, Technology, and Mathematics Education


Area III — Organizational and Administrative Studies in Education

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 I (all specializations, except counseling); Area II (all 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. 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 publications, 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 (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 publications, 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 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 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 major examination focusing on content derived from the major field of specialization.
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 advisor 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 formulation 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 1985-86.

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 conceptions 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.

112. Psychological Foundations of Education. Prerequisite: consent of instructor. Analysis of learning experiences in school situations. Examination of 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 roles of professionals, exceptional characteristics 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 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; faculty and administrators; curricular and instructional programs; counseling services designed to enhance women's educational and career development, affirmative action, and other recent legislation. Ms. Astin

190. Social Psychology of Higher Education. An overview of significant issues and problems 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 researching. Fulfills the 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 wish to engage in research and report oral or written research, regardless of their field of interest. Mr. S. Cohen

200B. Survey Research Methods in Education. Prerequisite: course 210A or equivalent. Problems of conceptualization, organization, and gathering non-experimental and quasi-experimental data and analysis. 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 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 impacting the development of American education from the 1860's 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

202. 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 curricula, school sites, 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 in culture and development and methods 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, 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

205. Computers in the Educational Process. Introduction to the theoretical aspects of curriculum, 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.

208A. Philosophy of Education: Introduction. Systematic introduction to the field, indicating ways in which philosophy serves to elucidate educational aims, content, methods, and values.

208B. Philosophy of Education: Existentialism and Humanism. Examination of existentialist ideas and their application in contemporary humanistic movements in school and society.

Mr. Eilert, Mr. Weinberg
206C. Philosophy of Education: Logic and Language. Conceptual analysis of recurrent and contemporary themes in the field. Emphasis is given to the development of logical and linguistic skills used in the analysis of educational problems and issues.

Mr. Elliott, Mr. Weinberg

206D. Philosophy of Education: Ethics and Values. A study of ethics and value theory. Web and learning, educational organization and policy, and curriculum design and validation. Mr. Elliott

206E. Philosophy of Education: Introduction to Humanism. Examines the historical and 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 organization and curricular perspectives. Political theory will be explored in the context of such educational issues as policy formation, pressure groups, and public and private elites. Mr. O'Shea, Ms. Wrigley

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 opportunities, and the structure of educational organization. Mr. Kintzer

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 an emphasis on the scope and variety of institutions. Mr. 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

210C. Problems in Research and Evaluation in Higher Education. A critical review of research and evaluation studies, with special attention to the need for studies of new programs and problems and to the design and methodology of evaluative research. Mr. Astin


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 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. Berry, Mr. Wittrock

212B. Motivation and Affect in the Educational Process. Prerequisites: courses 210A and 212A. A review of the theoretical and empirical literature on motivational factors in school settings and 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 services, with emphasis on task groups and evaluation. Mr. Berry, 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. Cognitive processes, 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

215. 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 attitudinal domains are also stressed.

216. Counseling Models from a Cross-Cultural Perspective. Prerequisites: course 212A 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. Sociological Development and Education. Biographical and familial, sociological 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 Piagetian and learning theories; application of cognitive developmental theory to educational practice, preschool through high school. Mr. Stipek

217C. Personality Development and Education. (Same as Psychology M239.) Application 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 theory of human development; family influences and family, and schooling influences on human development; application of developmental theory and research to educational practice. Ms. Feshbach, 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. Prerequisite: 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 studied as a feasible type of quasi-experiment to assess the impact of a particular educational intervention. Mr. Burstein

218C. Causal Models in Nonexperimental Research. Prerequisite: 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 for social science, 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. Sheaveison, 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


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. Mr. Turner (W)

222A. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. Offered every number 222. (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 observations into their current research interests. May be repeated for credit. Mr. Aslin

222B. Design Issues in Naturalistic Research. Prerequisite: course 222A 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 222A or 222B or consent of instructor. The course covers 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. Mr. O'Shea

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 includes consideration of the historical context of current research and applied issues in special education.

Ms. Keogh

226. Research in the Education of 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 225B. An overview of research and theory regarding 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. Emphasis will be placed on techniques of data analysis and interpretation of results.

Mr. Burton Jones


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 educational and occupational 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 alternative approaches to workforce transition 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. Emphasizes the application of theoretical principles underlying effective media content and media utilization. Consideration of particular differences among print, computer, and audiovisual media, in and out of school. Role of research in development of such 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, collegiate structures and postsecondary, are most appropriately studied as complex, transnational organizational systems. 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 school curricula and instructional procedures.

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. Mr. Bruno

243. Economics of Education. An introductory course in microeconomic and macroeconomic techniques applied to education. Methodologies such as marginal analysis, linear programming, Leontief input-output models, and Lorenz curve analysis are discussed, with particular reference to developing countries, equality of educational opportunity, and credentialing.

Mr. Bruno, Mr. Solmon

244A. 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 particular, addressing educational problems of organization of activities, classification, prediction, optimization, goal setting, and measuring inequalities are discussed.

Mr. Bruno

245. Perspectives on Lifelong Learning. An introductory course in microeconomic and macroeconomic techniques applied to education. Methodologies such as marginal analysis, linear programming, Leontief input-output models, and Lorenz curve analysis are discussed, with particular reference to developing countries, equality of educational opportunity, and credentialing.

Mr. Bruno

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 particular, addressing educational problems of organization of activities, classification, prediction, optimization, goal setting, and measuring inequalities are discussed.

Mr. Bruno
249A. Seminar: National Evaluations of Postsecondary Education. Critical review of national evaluation studies of higher education, including programs of general education and professional and graduate school programs; emphasis on the design, methodology, and interpretation of large-scale evaluation studies. Mr. Astin

249B. Seminar: Institutional Research and Program Evaluation. Critical review of institutional evaluation studies, with consideration of the scope of information needed for various purposes and the problems of integrating 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 — Methodological Perspectives. Prerequisite: course 206C or consent of instructor. Mr. Ellett

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. Mr. Weinberg

252A. Seminar: Educational Organizations. Prerequisite: course 206A or consent of instructor. Mr. Gordon, Mr. O'Shea, Ms. Wong

252B. Seminar: Education and Social Change. Prerequisite: course 206A or consent of instructor. Mr. LaBelle, Mr. O'Shea

253A. Seminar: Current Problems in Comparative Education. Mr. Hawkins

253B. Seminar: African Education. Mr. Hawkins

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 noncapitalist 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). Mr. Hawkins

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. Mr. Keislar, Mr. Wittrock

256B. Seminar: Special Topics in Development. Mr. Keislar, Mr. Wittrock

257. Seminar: Pupil Personnel Services. 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. Tefft, Mr. Pentz, Mr. Trent

259B. Seminar: Research on Characteristics of Educational Environments. Mr. Goodlad, Mr. McNeil, Ms. Tyler

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

261F. Seminar: Education and Work. Mr. Silberman and the Staff

262A. Seminar: The Social Studies. Ms. Crabtree

262B. Seminar: Reading. Mr. McNeil

262F. Seminar: Research Topics in Bilingual Multicultural Education. Prerequisite: consent of instructor. Mr. Valdez

262G. Seminar: Business Education. Mr. Erickson

263. Seminar: Contemporary Issues in Education and Work. Mr. Wilma

267. Seminar: Educational Technology. Prerequisite: course 433A. Recommended: course 433B.

275. Seminar: School Desegregation. 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

280A. Seminar: Selected Topics in Special Education (1/2 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-M279B-M279C). Prerequisite: consent of instructor. Ethologists now use successful animal behavior methodology to study human behavior. When is this appropriate, how can it contribute? Each quarter students are expected to attend class, to read, to attend and increase recording and behavior causation; development, especially longitudinal studies; adaptation; evolutionary origins.

M292A-299B-299C. Research Practicum in Education (1 to 2 courses each). May be repeated for credit.

315A-315B. Principles and Methods for Teaching Reading for Multiple Subject Instruction (1 course each). Prerequisite: Course 315A is prerequisite to 315B. 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. Mr. Kourlisky

316A-316B. Principles and Methods for Teaching Reading for Single Subject Instruction (1 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. Mr. Kourlisky

320A-320B. Principles and Methods for Single Subject Instruction (1/2 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 elementary schools. Observation and participation in schools. Mr. Kourlisky

324A. Observation and Participation: Multiple Subject Instruction (1 to 1/2 courses). Prerequisite: consent of instructor. Six hours per week of observation and participation in classrooms in which multiple subjects are taught, normally in an elementary school. Preparation for supervised teaching. S/U grading. Ms. Kourlisky

324B. Supervised Teaching: Multiple Subject Instruction (1/2 to 1 courses). Prerequisite: 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. Kourlisky

324C. Supervised Teaching: Multiple Subject Instruction (1/2 to 1 courses). Prerequisite: 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. Kourlisky

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 (1 to 1/2 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. Kourlisky
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. Kourinsky

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. Kourinsky

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. Kourinsky

334. Supervised Teaching: Higher Education. Mr. A. Cohen

377A. The Curriculum in Business Education. The curriculum in business education in secondary schools, including instructional techniques, course content, prognosis of achievement, and standardized tests in a multicultural society. Laboratory experience includes administration and interpretation of standardized instruments; case studies. 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 their execution and of their use in the assessment of the aptitudes of individuals. 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 counseling 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 communication, skills, and attitudes through audiovisual media and other instructional programs. Mr. Erickson

419B. Experimental 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 design of experiments on the effects of psychologically defined variables in instructional programs; theory and techniques of laboratory and field experiments on instructional media. Mr. Erickson

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. Ms. 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. Observation 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. Mr. Weinberg

421C. Research and Evaluation of Early Childhood Programs. Prerequisite: course 421A or equivalent. This course is concerned with the evaluation of the effectiveness of early childhood programs; the relation of preschool programs to family development and the role of the programs in the community. Ms. Crabtree

422. Inquiry into Schooling: Basic Issues. Critical examination of basic issues and problems in the organization and functioning of schools. 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, Ms. McNeil, Ms. Tyler

423. The Humanistic Curriculum. A consideration of the philosophical and cultural foundations of humanistic curricular strategies. Reviews techniques and procedures of effective 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 current trends in cognitive and affective learning and values, emphasizing social studies and interdisciplinary 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 rationalization 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 language instruction; issues relating 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 these 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 and advanced 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. Silverman
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. Ms. Kourilsky

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. Mr. Williams

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. Mr. Williams

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 subordinates in the policymaking process). Mr. Williams

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/ Ciudadan cultural education, special education, correctional education, and malpractice suits. Mr. Williams

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. Ms. Pope

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 the problems of urban school leadership. Topics include communication, conflict resolution, financial management, and group dynamics. Mr. Alkin, Ms. Baker, Mr. Popham

460. Seminar: Special Issues in Evaluation. Topics and instructors vary each quarter. Recent emphasis included evaluation utilization and cost effectiveness evaluation. Mr. Alkin, Ms. Baker, Mr. Popham

461A. Seminar: Adult Education. Mr. Williams

461B. Seminar: Adult Education in Other Countries. Mr. Williams

461C. Seminar: Community Service and Development Programs in Postsecondary Education. Mr. Williams

470A. Seminar: Large Systems and Individual Schools. Prerequisite: consent of instructor. Ms. Kourilsky

470B. Seminar: Educational Government. Prerequisite: consent of instructor. Ms. Kourilsky

481. Knowledge and Inquiry in the Classroom. Prerequisite: consent of instructor. Mr. Williams

489. Instructional Strategies in Education. Prerequisite: consent of instructor. Ms. Kourilsky

490A. Instructional Decision Making (1/2 to 11/2 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. Kourilsky

491A. Curricular Decision Making (1/2 to 11/2 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 (1/2 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 (1/2 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 (1 to 2 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 (1/2 to 3 courses). Research for and preparation of the master's thesis. May be repeated for a maximum of 12 units. S/U grading.

By any standard, the UCLA School of Law is recognized as one of the nation's great law schools. This reputation is based on excellence in scholarship, a rigorous educational program, and the quality of the faculty which includes eminent authorities in all major fields of law.

The educational program at the UCLA School of Law is rigorous and competitive, but it takes place in a humane environment where there is a genuine spirit of community. The student body of the school is intellectually distinguished, interesting, and culturally diverse.

The school's strong clinical program offers courses in lawyering skills such as interviewing, counseling, negotiation, and trial advocacy. UCLA students, alumni, and faculty have collaborated to pioneer clinical legal education. Students see more focus on the attorney/client relationship; they see more of what will ultimately face them as lawyers and policymakers.

An extensive and diversified student extern program, one of the most highly regarded moot court programs in the nation, and a basic philosophy that teaches law students to think clearly and analytically, but with compassion, all contribute to the distinction of the school.

Photo: The UCLA Moot Court Program, recognized as one of the finest in the nation, is open to all students who wish to compete.
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.)**

### 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 (13 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. Dolinko, Mr. Lowenstein, Mr. Munzer

140. Torts (5 units). Personal injury law as it has developed within the Anglo-American legal tradition. The concept of negligence, the refinement of negligence 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 defendants.

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 a 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 soci- ety leads to overrepresentation of the few and underrepresentation of the 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 three branches (legislative, executive, and judicial) of the national government. Civil War Amendments 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.


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 impications 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 device from its common law origins to the modern 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.

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 actions, in determining whether the 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 evidence.

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 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 government regulated social order.

217. 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 punishment, rights, and limits of control of such executive action by the other 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.

220. Federal Taxation I. Fundamentals of federal income tax law, 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 ordinary income or capital gain. Issues of tax policy and reform and the provisions of the Internal Revenue Code and Income Tax Regulations.

221. Federal Taxation II. Prerequisite: course 220. Corporation tax may be taken currently. Analysis 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 partnerships and shareholder interests.

222. Federal Tax Law III. Federal taxation of gifts and decedents' estates. Provisions of the tax law regarding 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, particularly as they apply to individuals.

223. Tax Legislation and Policy. The basic policy issues in federal income taxation. The ethical justifi-

224. Taxation of Foreign Income. Prerequisites: courses 220, 221. United States taxation of foreign persons and the effect of tax treaties. The 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.

225. 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 of the 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.

236. Securities Regulation. Prerequisite: course 220 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.

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.

245. Antitrust II. Prerequisite: course 240. The course will consider the historic Sherman Act monopoly 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.

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. The relationship between the basic structure of voluntary exchange and 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.

248. Debtor and Creditor. Prerequisite: course 220. An introduction to the legal problems of the bankruptcy process. Related topics in the enforcement of money judgments, claim and procedure, 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
246. Business Reorganizations under Bankruptcy Law. 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 and its impact on commodities law, including the sale of goods, including the sale of goods and exports, and the law of carriage of goods, including the carriage of passengers and goods by water. The allocation of responsibility for decision making and for determining the legal and economic impact of international business law. Mr. Jordan, Mr. Warren

270. International Law. The role of law as a factor in international relations and in government affairs decision making. The law of the United States. Nature and source of international law and how it is applied in the relations of nations. The allocation of responsibility for decision making among the national and local 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. Allford, Mr. Rossett

271. International Business Transactions. Provides a critical understanding of the fundamental legal issues that arise in international trade, licensing, and investment. The legal and 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. Allford, Mr. Rossett

278. Comparative Law: Chinese Law. An introduction to the nature and function of law in China, fosters comparative legal analysis, and equips future practitioners to address legal problems arising from international transactions. 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 time limits, the special procedures for limiting shipowners' liability, and the sources and nature of law governing maritime matters, and property will be among topics discussed. The application of traditional maritime doctrines to modern phenomena such as offshore drilling, containerization, and oil spills will be addressed. Mr. Goldberg-Ambrose

280.比较法与法理论. The study of the regulation of air transport and transport of aviation law, 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 for maintenance, repair, and service facilities, and air traffic control and advisory services. Mr. Margo

281. 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 development of the workers’ compensation concept. Legal implications of the general theory of workers’ compensation, and its economic impact. Legal issues raised by the federal Occupational Health and Safety Act. Mr. Schwartz

285. Government: State, Regional, and Local (2 units). (Same as Architecture and Urban Planning M285.) Legal problems involving government entities; sources and extent of powers and duties with respect to personnel, finance, public works, community development, and related topics. Mr. Guttler

286. Public Control of Land Development (3 units). (Same as Architecture and Urban Planning 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

M287. Urban Housing and Community Development (2 to 3 units). (Same as Architecture and Urban Planning M287.) The current comprehensive consideration of 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. 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)

M295 Environmental Law and Policy (2 to 3 units). (Same as Architecture and Urban Planning M295.) The course first examines, from perspectives meaningful to legal institutions, the nature of environmental problems. It then considers the means by which these problems are approached, 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 Government. 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, are alternatives to federal taxation. Other taxes, 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, the Eastern United States, the riparian system of allocating water used in the Western United States, and the federal system of rights. The law of water usage, groundwater management, public rights to water-based recreation, and water pollution. Mr. Thompson

295. Criminal Procedure. The process by which courts secure the guilt 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, privilege against self-incrimination. Mr. McGee (W)

296. 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 practice of principal remedies; 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, artistic works, in connection with originality, type 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 multinational (both sister state and foreign nation) disputes. The choice of law problem, constitutional limitations on state choice of law, recognition of foreign judgments and execution. Analysis of the governmental interests implicated by the dispute.  
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 structure and policy. 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 human function; (4) death control; and (5) regulation of experimentation with human subjects. Mr. Delgado

325. Law and Psychiatry. (Same as Psychiatry M262.) Prerequisite: consent of instructor. Introduction to the ethical and legal implications of the relationship, 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, network and 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 on specific topics in the law 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 law, the Equal Rights Amendment, control of childbirth, and the operation of dissent, and other topics in criminal law (rape, prostitution) or topics in family law (the marriage obligation and grounds for divorce). Ms. Goldberg-Ambose, Mr. 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 self-reflexibility 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. Mr. Premo

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 minor patients; the 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 religious 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. Scott

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 1785. Mr. McGovern

337. Legal History: Histories of Contract. The different accounts of the historical development of the basic 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, in the development of contract law. The role of procedure in contract enforcement. In a system that gives authority to precedent, is the legal writing of a 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 law? Mr. Yeazell

400. Pretrial Litigation Process (Clinical). Provides training and practical experience in the full range of skills used by lawyers during the pretrial phase 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 learning 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 prosecution, and defense offices at the federal and state level under the direct supervision of experienced appellate practitioners.  
Mr. Binder, Mr. Patterson

402. Fact Investigation and Discovery in Complex Litigation (Clinical). The process of developing and proving facts, the relationship between the discovery of facts and proof at trial, and the range of formal and informal discovery devices 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 trial lawyer.  
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, legal research, negotiation, settlement, 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, Mr. 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 to interview in order 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. Mintzer

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 analyses 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 is 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. Nimetz

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-Ambose

504. Seminar in Theory of Property. A philosophical examination of the defenses of property, other economic and social structures; justifiability of gifts and bequests; property and human nature; takings. Readings from Locke, A. Smith, Mill, Hegel, Marx, contempo-rary writers, and instructor's work in progress. Some familiarity with philosophy would be an advantage.  
Mr. Munzer

Mr. Aaron, Mr. Alleyne

M524. Seminar: Philosophy of Law. (Same as Philosophy M524.) 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 impact of new technologies on the legal issues associated with a particular problem, and will prepare one or more papers designed to address legislative or litigation-oriented solutions to the problem. Students' work may be used in ongoing litigation or in current legislative deliberations.

Mr. Firestone

526. Seminar: Urban Affairs. (Same as Architecture and Urban Planning M222C.) 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 an issue which directly interests them. For each case, a specific client works with the class in presenting the problem that client is facing and remains available through the course of the project for consultation; the end product for each case is the presentation of a formal report. Clients include the City Planning Commission, the Environmental Quality Board, the Housing Authority, and others.

Mr. Winsted

533. 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. Winfield

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. The seminar will survey that literature, including the bourgeois legal formal, 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 seminar will be on a theoretical consideration of the major aspects of the agency relationship: creation of the relationship, vicarious liability, authority and fiduciary obligation.

Mr. Anderson

565. 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, particularly 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, Moncton 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 and 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 buildup 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
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

Professors
Harold Borco, Ph.D.
Robert M. Hayes, Ph.D., Chair
Russell Shank, D.L.S.
Robert Withers, M.A., LL.D.
Page Ackerman, B.A., B.S.L.S., Emeritus
Andrew H. Horn, Ph.D., Emeritus
Seymour Lubetzky, M.A., LL.D., Emeritus
Lawrence Clark Powell, Ph.D., Litt.D., L.H.D., Emeritus
William H. Fisher, Emeritus
Raymond F. Wood, Ph.D., Emeritus

Emeritus
Lawrence Clark Powell, Ph.D., Litt.D., L.H.D., Emeritus
Seymour Lubetzky, M.A., LL.D., Emeritus

Assistant Professors
Marcia J. Bates, Ph.D.
Diana M. Thomas, Ph.D.
Robert M. Hayes, Ph.D.

Assistant Professors
Dorothy J. Anderson, Ph.D.
William H. Fisher, Ph.D.
John V. Richardson, Ph.D.

Senior Lecturers
Elizabeth R. Baughman, M.L.S., M.A.
Eliza R. Eisenbach, M.L.S.
Betty Rosenberg, M.A., Emeritus

Associate Professors
Diana M. Thomas, Ph.D.
Robert M. Hayes, Ph.D.

Assistant Professors
Mary Greco, Ph.D., 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 Chabrán, M.L.S., Adjunct
Patricia Chittenden, M.L.S., Visiting
Jon Grenell, M.L.S., Adjunct
Frank Houdak, J.D., M.L.S., Visiting
Teresa L. Jacobson, M.S.L.S., Adjunct
Linda Katsouleas, M.L.S., Visiting
Mary M. McCormick, M.L.S., Adjunct
Holly Millard, M.L.S., Visiting
James V. Mink, M.A., Adjunct
Constance W. Nied, 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 9), 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-
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 bibliographic and research methods and tools for students with interests in ethnic groups. 111A is concerned with American Indian history and culture; 111B with African-American 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 both is 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 bibliographic 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 bibliography, with emphasis on rare books, manuscripts, and special collections. May be repeated once.

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. Prerequisite: courses 410 and 411, or equivalent. Specialized studies in selected areas of descriptive and bibliographic cataloging (e.g., purposes, principles, instructional development, potentialities of automation). May be repeated once.

211. Seminar in Subject Control of Library Materials. Prerequisite: 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 transition from individual to large-scale indexing projects. Possibilities and present limitations of automation. Role in coordination of information retrieval 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 bibliographic 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 bibliographic literature; abstracting periodicals; 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, catalog 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, bibliographic apparatus, and reviewing media. Trends in scholarly and popular writing.

225. 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, instruction, and technical services, including circulation, acquisitions, and cataloging, will provide the experience and competency required for future bibliographic and research sophistication as the basis for enhanced research results.

226. 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.


229B. African Bibliography and Research Methods. (Same as African Area Studies M229B.) The course will explore the problems and techniques of research methodologies related to African studies. The course will be based on specialized reference materials, using the full range of available information resources, including library collections of books, serials, and computerized data bases.


240. Information Systems Analysis and Design. Theories and principles of system development, including definition 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 creators, users, and evaluators. 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 or measure systems design and library services, including circulation, acquisitions, and document delivery systems. 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, cataloging problems and classifications, 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 convergence in novels of interest 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. Students perform several on-line assignments and write a term paper on one of the topics covered in the course.

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 bibilography; the book collecting of ancient, medieval, and modern Western civilization.

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 or 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: documented research experience or consent of instructor. Emphasis on recent contributions to the theory, research, and methodology. May be repeated for credit. S/U grading.

280. Information Needs, Uses, and Users. Lecture, three hours. Study of the information needs, influences, both individual and social, associated with human beings needing, using, and acting on information. Topics include information theory, human information processing, information retrieval, 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 business information needs in 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 (1/2 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 information processing problems of business and how a coordinated records and information management program can improve information access and utilization.

290. Research Methodology (1/2 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 (1/2 to 1 course). Prerequisite: consent of instructor. 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.


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 books and periodicals, tools, theory, methods, and trends in bibliographical research in relation 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 problems in the design, implementation, and testing of mechanized systems for libraries. Study of programming languages for library applications, with emphasis upon PL/1.


411A. Introduction to Subject Access: Alphabetical-Subject Indexing (1/2 course). Formerly numbered course 410. Lecture/discussion, four hours (five weeks). Prerequisite: course 410. Overview of the major alphabetical-subject indexing languages and their use in manual and on-line environments, including the theory and application of the Library of Congress classification system.

411B. Introduction to Subject Access: Systematic Indexing (1/2 course). (Formerly numbered 411.) Lecture/discussion, four hours (five weeks). Prerequisite: course 410. Overview of major thesaurus 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. Prerequisite: courses 410 and 411. Problems in cataloging and classification of selected non-book materials (e.g., films, maps, pictorial works, sound recordings) as separate collections and integrated systems.

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 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 current state 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, and 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. Data bases are a part of the information needs of scientists and business/la
er, coupled with investigations into specific resource data bases addressing those needs.

429. Printing for Bibliographers. Prerequisites: courses 420 or 261. An introduction to the techniques of producing bibliographies as operational and library materials. Introduction to the techniques of producing bibliographies as operational and library materials. Students are required to choose, learn, and tell stories in class and in a library or community setting and to read stories aloud.

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 selection and acquisition; special collections and rare books; building new collections. Evaluating and weeding collections. Cooperative collecting regional, national, and international. Storage and classification. Special format materials: films, maps, sound recordings, etc. Copying methods; facsimile reprinting; changing character of research collections.


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 operating 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; structural and furniture systems, 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.

451. 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.


455. 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. Results in various settings, with emphasis on the folk tale, oral interpretation with emphasis on modern imaginative literature. Readings and discussion of the function of folklore and fantasy in literature and society, children's participation in 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.
487. Seminar on Current Topics in Public Library Administration. Prerequisite: course 483 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.


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. Examination 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. Direct 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.


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)
Eliwood S. Buffa, Ph.D. (Operations Management and Management Science)
Joseph D. Carrabino, Ph.D., P.E.
Fred E. Cese, D.B.A. (Urban Land Economics)
Samuel A. Culbert, Ph.D. (Behavioral and Organizational Science)
Louis E. Davis, M.S. (Organizational Sciences)
David K. Elfman, Ph.D. (Finance and Insurance)
Glenn W. Graves, Ph.D. (Quantitative Methods)
Donald Erlenkotter, Ph.D. (Planning and Decision Sciences), Chair
Eric G. Flamholz, Ph.D. (Accounting and Information Systems)
Walter A. Fogel, Ph.D. (Industrial Relations)
Arthur M. Geoffrey, 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. Kassanjan, Ph.D.
Paul Kircher, Ph.D., C.P.A. (Accounting-Information Systems)
Archie Klinegartner, Ph.D. (Industrial Relations)
J. Clayburn La Force, Jr., Ph.D. (Economics), Dean
Bennett 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)
Bill McKevelvy, Ph.D. (Management and Organizational Behavior)
Daniel J.B. Mitchell, Ph.D. (Industrial Relations)
Frank O. Miitteltacht, M.A. (Management and Planning)
Rosser C. 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. Raiha, 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. Corder 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. Clendenan, 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 Eliza Steiner Professor of Business and Society)
Robert Tannenbaum, Ph.D.
Robert M. Williams, Ph.D.

Associate Professors
Ichak Adizes, Ph.D. (Managerial Studies)
THEORETICAL AND FINANCIAL ECONOMICS:
Frank E. Norton, Ph.D.
David A. Osborne, Jr., Ph.D.
William F. Paul, Ph.D.
MAURICE W. KLASS, JR., M.B.A., C.P.A., LL.D.
Robert 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. Corder 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. Clendenan, 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 Eliza Steiner Professor of Business and Society)
Robert Tannenbaum, Ph.D.
Robert M. Williams, Ph.D.

Associate Professors
Ichak Adizes, Ph.D. (Managerial Studies)
THEORETICAL AND FINANCIAL ECONOMICS:
Frank E. Norton, Ph.D.
David A. Osborne, Jr., Ph.D.
William F. Paul, Ph.D.
MAURICE W. KLASS, JR., M.B.A., C.P.A., LL.D.
Robert 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. Corder 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. Clendenan, 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 Eliza Steiner Professor of Business and Society)
Robert Tannenbaum, Ph.D.
Robert M. Williams, Ph.D.

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. Katzky, 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

Professor
Abraham Kaplan, Ph.D., Emeritus

Associate Professor
Marvin M. May, Ph.D., Adjunct
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 degree. 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 specialities, 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.

(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.
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: sophomores 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, 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; receivables; 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 analyzing and controlling. Mr. Carrabino and the Staff.

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.

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, 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 contemporary business economics principles of resource allocation and the role 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.

Preferred courses in Management Topics of special interest to graduate 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. Contemporaneous 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


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 productivity; policy needs for the future. Treats policy formation and administration as well as design.
202A. Economic Theories of Business Behavior: Marginal, Managerial, and Behavioral. Prerequisites: course 200A. The economic behavior of the firm and firm groups is considered. Theories extending from those which emphasize 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 200B. This course develops economic principles necessary for understanding the economic structure and behavior of industries. Topics range from substitutability criteria for industry definition and a comparison of economic definitions to their implications for 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, 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. Mutually exclusive value theory. Departures from consistency: descriptive theories of behavior and resulting models. Mr. Sarin

M203B. Economics of Information. (Same as Economics 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 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 economic 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 industrialization. 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 sector. Topics include the nature and organization of the market for public goods and the allocation of economic efficiency to resource allocations. Mr. Granfield

207B. Public Services and Private Functions. Prerequisites: courses 405 and 406, or consent of instructor. Examination of the proper roles of government and the private sector in the financing and operation of public and private services. Mr. Granfield

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 economic disciplines.

210B. Applied Stochastic Processes. Prerequisites: Mathematics 150A or Engineering 120A. Sequential stochastic (usually Markovian) decision processes in dynamic programming and optimal control emphasizing the role of Markov decision processes and the characterization and compution of optimal policies, often via dynamic programming; application to inventory, queuing, maintenance, reliability, and replacement problems. Mr. Glass

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 fundamental efficient computational methods, and the keys to successful practical computational problems. Mr. Geoffrion

211A. Nonlinear Mathematical Programming. Prerequisites: course 210A and Mathematics 32A or equivalent. Theory, methods, and applications of the optimization of nonlinear systems. Review of classical optimization methods; optimality and duality theory for convex programs; various computational approaches to convex programming; survey of current computer codes and computational experiences.

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 structure with geometric, dynamic, multidimensional, 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. An introduction to deterministic models on how to solve them, and their application in the management sciences. Solutions of linear programming models, network optimization, integer programming, non-linear 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. An introduction to stochastic time-series and probabilistic models for managerial decision making. Application areas include finance, marketing, production, facilities design, and energy systems.

Mr. Erlenkotter, Mr. Geoffrion

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 and its application 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 linear, multiple linear and nonparametric statistics, all as they apply to management problems.

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 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 behavioral models in the behavioral sciences. Theories, methods, and tools 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 equivalent. Mathematical theory and practices of statistical survey design and analysis.

Mr. Jessen

216A. Simulation of Operations Systems. Prerequisite: courses 113B, 402, or equivalent background in batch computing (APL is not suitable) and statistics. Computer simulation methodology, including design, validation, operation, 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 by students in this course. Emphasis is on 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 interest: 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

217C. Topics in Management Science (% 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 (1/4 to 1 course). Prerequisite: consent of instructor. Special topics in statistical methodologies. Current research and development 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 (1/4 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 (1/4 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. An examination of the pronouncements of the Financial Accounting Standards Board, the Securities and Exchange Commission, and other authorities. 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. Lienzt

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. Prerequisite: 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, special emphasis for the user, system requirements. Case materials and/or actual examples are used.

224D. Generalized Data Base Management Systems. Prerequisite: course 113B or 113C or consent of instructor. Examinations of general concepts and principles of generalized data base management systems. Includes system classification, comparison of software features, and evaluation of specific systems. Emphasis is on management use of such systems. A field study project may be required. Mr. Sprows

224E. Computer Simulation for Management. Prerequisite: course 224A or consent of instructor. Introduction to computer simulation and to general purpose simulation languages. Emphasis is 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. Lienzt

224G. Operations Research In Management. 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 vary with a number of topics. May be repeated for credit.

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. Sprows

225B. Information Systems for Planning and Control. Prerequisite: course 404 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 mathematics, economic, behavioral, and organizational considerations. Mr. McDonough

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.

225E-225F-225G. Current Research In Information Systems. Prerequisite: course 225A or consent of instructor. A year-long sequence associated with the Computer 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. Mr. Runyan

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 practices as it has evolved in accordance with basic theory and expanding demands for accounting information.

Ms. Kelly

229B. Research Methodology In Accounting. Prerequisite: course 220B or consent of instructor. Examination of research methodology in accounting and other fields as they relate to accounting.

Ms. Kelly

229C. Special Topics In Accounting. Prerequisite: course 220B 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 Information Systems Workshop (1/4, 1/4, 1/4 course each). Special topics. Stresses the applications of the theoretical and practical aspects of the accounting information systems field. Mr. McLean

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 220A or consent of instructor. Identifies the fundamental issues in profit sector financial policies through the use of cases. Stresses the application of financial theory and financial accounting 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 and expectations of the policy maker. Examine the behavior of resource allocation when market valuation cannot be used as a criterion. Mr. Eltman


231D. Empirical Research in Finance. Prerequisites: courses 230 and 231A, or consent of instructor. Advanced topics in finance theory and empirical research. Specific topics include forecasting, trend analysis, and capital asset pricing. Prerequisite: doctoral standing. May be repeated for credit with consent of instructor. Mr. Geske

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 statement analysis of the organization.

232B. Portfolio Management. Prerequisite: course 230. Focus on entire portfolios rather than individual assets. Review portfolio theory as applied to portfolio design making and the evaluation of individual portfolio performance. Case studies of portfolio construction.

232B. Financial Institutions. Prerequisites: courses 230, 232A, and 233A. Study of financial systems, law, 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.

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, stocks, and other financial instruments. Study of funds flow from credit markets. Analysis of costs of capital in individual industries.


233A. 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.

234A. Project Management. Prerequisite: course 240. Management of production systems. The use of project management techniques to design, implement, and control large scale projects. Methods of managing large scale projects. Mr. Eiteman

234B. Aggregation and Planning. Prerequisite: course 240. Management of production systems. The use of project management techniques to design, implement, and control large scale projects. Methods of managing large scale projects. Mr. Eiteman

236. 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 consent of instructor. Mr. Geske

236A. Theory of Exchange 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

236B. Theory of Investment under Uncertainty. Prerequisites: courses 230 and 236A, or 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. Roll

236C. Doctoral Seminars in Finance. Prerequisites: courses 230 and 236A. Extended for doctoral students. Advanced topics in finance theory and empirical research. May be repeated for credit with instructor change.

236X-239Y-239Z. Finance Workshop (1/4 course, 1/4 course, 1/4 course). 90 minutes per week. 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 is encouraged. Discussion of the papers in sessions prior to the workshop, as well as during the colloquium. May be repeated for credit.

236A. Corporate Decision Making Environment. Prerequisite: course 230. Decision making environment during the first two years of their doctoral work. Student and faculty presentations of ongoing research. Mr. Sarin

236B. 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, policy analysis, and social experimentation. Provides some insight into staff functions performed by those responsible for resource allocation.

236C. Policy Implementation in the Public/Not-for-Profit Sector. Prerequisite: courses 246A and 246B, or consent of instructor. Examines resource allocation objectives/techniques used in federal, state, and local government. Budget analysis as a planning device, vehicle for allocation decision making, financial control mechanisms, and political choice. Mr. Sarin

240A. Effective Issues in the Management of Operations. Prerequisites: courses 246A and 246B, or consent of instructor. General discussion of inventory models and investment policies, with emphasis on characterizing the demand pattern and efficient computational methods. Discussion of stochastic, discrete, and continuous time models are considered.

242B-243C. Survey of Operations Management. Prerequisite: graduate standing. Survey of the research literature in operations management. Seminar reports dealing with special topics.

244. Policy Issues in the Management of Operations. Prerequisite: second-year graduate standing. Case analyses centering on the operations phases of entrepreneurship. Case studies are drawn from service, manufacturing, and manufacturing industries.

245A. Special Topics in Operations Management. Studies of advanced subjects of current interest in operations management. Topics are 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. Special Topics in Operations Management. Prerequisite: second-year graduate standing. Survey of the research literature in operations management. Seminar reports dealing with special topics.

246A-246B. Project Management. Prerequisite: course 246A. Management of production systems. The use of project management techniques to design, implement, and control large scale projects. Methods of managing large scale projects. Mr. Eiteman

246A-246B. Production and Operations Management Seminar (1/4 course, 1/4 course). Discussion of 90 minutes per week. 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.

247A. Interorganizational Strategies in the Public/Not-for-Profit Sector. Prerequisite: courses 303, 403, 408, and 246A, or consent of instructor. Examines resource allocation objectives/techniques used in federal, state, and local government. Budget analysis as a planning device, vehicle for allocation decision making, financial control mechanisms, and political choice. Provides some insight into staff functions performed by those responsible for resource allocation.

247B. Budgeting and Resource Allocations in the Public/Not-for-Profit Sector. Prerequisite: courses 303, 403, 408, and 246A, or consent of instructor. Examines resource allocation objectives/techniques used in federal, state, and local government. Budget analysis as a planning device, vehicle for allocation decision making, financial control mechanisms, and political choice. Provides some insight into staff functions performed by those responsible for resource allocation.

247C. Policy Implementation in the Public/Not-for-Profit Sector. Prerequisite: courses 246A and 246B, or consent of instructor. Emphasizes problems of implementation of policies within the organizational context. Includes consideration of public sector entrepreneurialism, public personnel management, and public sector consulting. Mr. Zurnata

247D. 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, local organization. System structure, transactions, levels of collaboration, competition, and dependency among organizations.

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: 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. Flamholtz, Mr. Adizes

250C. Behavioral Foundations of Human Resource Management. (Formerly numbered 250C.) Lecture, three hours. Prerequisite: course 250B or consent of instructor. Topics include development and training; human resource accounting; behavioral foundations of participating management; motivation, productivity, and satisfaction; designing reward systems; and evaluation of organization effectiveness. Emphasis is on organizing and influencing human behavior in organizations.

Mr. Flamholtz, Mr. Massarik

251. Managing Human Resources. (Formerly numbered 250D.) 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 250E.) 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 250F.) Lecture, three hours. Prerequisite: graduate standing. Analysis of conflict in the employment relationship; theoretical and empirical findings. Principles and philosophies that underlie the 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.

Mr. Fogel

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.

Mr. Hutchinson

258. Selected Topics in Industrial Relations (1/4 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. The selection of topics depends on the consent of instructors, 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, or by permission. Examination of labor market data to measure the human resource needs of organizations, including staffing, training, management development, career progression, and evaluation.

Mr. Hutchinson

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 organizing planning. The cornerstone of the framework are the analysis of the firm's external environment and the internal organization. The cornerstone are the analysis of the firm's external environment and the internal organization.

Mr. Carpenter

261A. Management in the Distribution Channel. Prerequisite: course 260A or consent of instructor. An examination of the distribution channel. Issues of power in the distribution channel and the trade-offs between alternative channel systems are discussed.

Mr. Adizes

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 and solutions 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 well as the role of price in the marketing process. 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.

Mr. Fogel

263A. Consumer Behavior. Prerequisite: course 411 or consent of instructor. A study of the nature of determinants of consumer behavior. Attention is focused on the influence of socio-psychological factors such as personality, social 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, characteristics of advertising and other promotional devices, influence of rewards and organization systems on sales efficiency, and effectiveness of competitors' strategies.

Mr. Curtin, 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 concerned on models concerned with such problems as brand switching, media selection, price competition, competitive strategy, scheduling, allocation problems, and waiting lines.

Mr. Zemke

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 study of the legal environment in marketing, including state and federal law, as well as advertising, trade practices, and legislation affecting competition.

Mr. Cooper

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 advertising behavior in a scientific and economic context. Macroanalytic perspectives in marketing.

Mr. Curtin

266A. Product Management. Prerequisite: course 260A. The course develops a framework for identifying and appraising alternative growth strategies of the firm. The major strategic decisions are examined, and the processes by which these decisions can be made in an optimal manner are discussed.

Ms. Folkes

266B. Advertising Policy. Prerequisite: courses 260A and 263A, or consent of instructor. A study of the formulation of advertising policies. Involves an analysis of cases dealing with the role of advertising in marketing, the definition of advertising objectives, strategy, appropriation policy, media selection, evaluating advertising results, and the organization of the advertising function.

Mr. Curtin

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.

Mr. Curtin

267. Macromethodological Issues in Research on Purchasing. 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 (1/4 to 1 1/2 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 is geared toward the immediate needs of 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 be familiar with constructing 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 marketing of arts emphasizing, through examination, new product development and introduction, pricing strategies, channel policy, promotion decisions, and sales force management is examined critically. Both qualitative 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 marketing 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 and 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 and related fields. Students are encouraged to select one or two topics in current research and theory. May be repeated for credit.

269X-269Y-269Z. Workshop in Marketing (1/4 course, 1/4 course, 1/4 course). Prerequisite: doctoral standing. Required of all students during their second 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. The particular topic is the goal of the workshop, which helps the student gain a richer perspective on the field of marketing.

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 changes in the field.

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 effects on the artistic enterprise, and intellectual property and organizational 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 art-related institutions. Examination of the role of introduction 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 year in the human systems Ph.D. program and held by the broader community of system researchers and inter- venters.

Mr. Carpenter

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, 268A, or consent of instructor. Investigation of 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. 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

276A. Theory of Urban Property Valuation. Prerequisite: consent of instructor. Focus on the economic, social, and institutional factors 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 allocating land values. 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

277A. Housing Economics. Prerequisite: consent of instructor. Development 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 state 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 practical analysis of methods and potential strategies of real estate investment and the relationships between real property and other investments. Real estate investment opportunities are evaluated for their effectiveness in balancing personal and business investment objectives and public policy objectives.

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 practices of various agencies and institutions are related to the real estate construction and market trends, and governmental economic and housing policies and programs. Mr. Case, Mr. Mittelbach

278A. 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
282. Task Group Processes. Prerequisite: course 281A 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 technological and organizational environments. Includes in-depth treatment of consultant entry and leaving, diagnosing, processes consultation, consciousness raising, team building, values, etc., depending on student and faculty preferences. May be repeated for credit.

283A. 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. Emphasizes thorough treatments 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.

283B. 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. Emphasizes thorough treatments 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.

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 microcosm 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. Studies theoretical and practical approaches to influencing and changing organizational behavior. Emphasizes the relative effectiveness of various leadership styles, different motivational theories, and power tactics from a managerially directed point of view. Uses experience-based learning methods and diagnosis and understanding of one's own influence styles. Mr. Culbert.

285. Managerial Interpersonal Communication. Prerequisite: course 281B or consent of instructor. Focuses on organizational, interpersonal, and personality factors affecting managerial communication. Analyzes and interprets the relative effectiveness of various leadership styles, motivational theories, and power tactics from a managerially directed point of view. Uses experience-based learning methods and diagnosis and understanding of one's own influence styles. Mr. McDonough.

287. Sensitivity Training Groups and Their Facilitation. Prerequisite: consent of instructor through prior or 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.

289A. 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.

289B. Selected Topics in Behavioral Science. Prerequisite: doctoral 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.

289C. 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 technological and organizational 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.

289D. Selected Topics in Organization Theory. Prerequisite: doctoral standing or consent of instructor. In-depth treatment of organizations as units of analysis in sociotechnical and sociocultural development, methodological issues in organizational research, and concepts of organization structure, process, and effectiveness. May be repeated for credit.

289E. 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.

289F. Selected Topics in Organizational Change. Prerequisite: doctoral standing or consent of instructor. Emphasis on the public sector. Development of policy and program frameworks for developing and evaluating current and future environmental quality. Mr. Schollhammer.

290. Organization Development. Prerequisite: consent of instructor. Examination of ways in which business, government, labor, and society are structured and how they might respond to environmental problems. Methods are studied for developing and evaluating alternative managerial solutions which permit organizations to assist in improving current and future environmental quality. Mr. Andrews.

291. Planning and Control. Prerequisite: consent of instructor. In-depth study of theory and practice of the managerial function of organizing through study of the literature, case analyses, and seminar discussion. Individual projects and reports. Mr. McNeely.

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, that are 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; diagnosing and proving governments; reality and value judgments; social and technical dimensions of alternatives; and social and technological forecasting. Mr. Andrews.

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. Adjustment of the firm to changes in the social environment. Ethical problems in management. Social responsibilities of the business manager. Mr. Andrews.

294A. Strategy Formulation and Implementation. Prerequisite: consent of instructor. Special emphasis on the strategic management process. 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 society are structured and how they might respond to environmental problems. Methods are studied for developing and evaluating alternative managerial solutions which permit organizations to assist in improving current and future environmental quality. Mr. Andrews.

295. 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. Schollhammer.

295A. Small Business Management. Prerequisite: consent of instructor. Exploration of crucial aspects in managing small business. Emphasis is placed on the identification and analysis of characteristic operating problems of small firms and the applicability of appropriate methods or techniques for their solution. Mr. Schollhammer.

296. International Business Management. Prerequisite: course 205A or consent of instructor. Examination of current and future environmental quality. Mr. Schollhammer.

296A. International Business Management. Prerequisite: course 205A or consent of instructor. Examination of current and future environmental quality. Mr. Schollhammer.

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.
297. International Business Policy. Prerequisites: courses 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 are 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 assets; and 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/disolution 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 (1/4 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.

299. 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 office. Students must enroll in the quarter in which they are submitting their research paper. May be repeated for credit.

375. Teaching Apprentice Practicum (1/4 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. Emphasis on 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 upon application to business problems.

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.

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.

405. Managerial Economics: The Organization. Analysis of decision making in the firm, competitive policies and market structure, revenue and cost behavior.

406. Managerial Economics: Forecasting. Prerequisite: graduate standing. Sales, costs, and profit forecasting. General business forecasting and cyclical mechanisms.

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 applications, and use of solutions obtained from computer routines. Application areas include finance, marketing, production, and public systems.

408. Managerial Finance. Prerequisite: course 403. Analysis of financial decision areas of 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.


410. Production and Operations Management. Prerequisite: course 407 or equivalent. Principles and decision analysis related to the effective utilization of the factors of production in manufacturing and non-manufacturing activities for both intermittent and continuous systems. Production organizations, analytical models and methods, facilities design, and the design of control systems for production operations.

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 planning, control, information, incentive systems, different patterns of human interaction such structures and systems tend to produce.

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, organizational appraisal. Senior management’s role in managing the policy process.

423. Advanced Management Theory. Advanced study of management theory in formally organized enterprise through significant readings, discussing advanced research, and developing new theory, developing from applying theory; using theory to integrate methods and finding of quantitative and behavioral sciences; lectures on sophisticated application of management theory in practice.


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 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. Organizations 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 (1 1/2 to 3 courses). Prerequisite: consent of instructor. Supervised practical fieldwork in organizational development consultation in interpersonal, group, intergroup, total organization, and interorganizational settings.

452. Fieldwork in Technical Assistance for Minority Business Enterprise (1/4 to 1 course). Prerequisite: consent of instructor. Supervised practical fieldwork in all phases of an arts organization (cultural, performing, or community), concentrating on its managerial problems and its relationship to the community and society in general.

453. Fieldwork in Arts Management (1 to 3 courses). Prerequisite: consent of instructor. Supervised practical experience and work practice in all phases of an arts organization (cultural, performing, or community), supervised field experience and practical work in all phases of an arts organization (cultural, 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 graduate dean 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 coursework. May not be repeated for credit.

455. 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.

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 (1/4 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.

506A-599N. Research in Management (1/4 to 2 courses each). Prerequisites: 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 course or 2 courses each). 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 permission. 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 permission. 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 (1 course). The course will focus on individual problem solving and decision making skills. Alternative conceptual frameworks will be presented for augmenting the individual 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.

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 policy and regulations, and a business firm's optimal response to regulation.

463. Data Analysis and Management Decisions Under Uncertainty. The course will survey statistical model building, with emphasis on the manager's 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.

464. Managerial Accounting. The course familiarizes the student with the functional accounting by focusing on the use of external financial reports for evaluating corporate performance and the use of accounting information for internal planning and control.

465. Quantitative Methods for Managers. A survey of modeling approaches to managerial planning and decisions. Emphasis 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.

466A-466B. Financial Policy for Managers (1 course, 1/2 course). Modern financial management deals with decision making under uncertainty for corporate financial management, for portfolio- and international investment decisions, for financial institutions, and for international financial management. The course focuses on learning sound theoretical tools and applying them in casework.

470A-470E. Action Research and Policy Analysis Project (1 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 management and organizational responses to deal with environmental change. In Progress grading credit to be given only upon completion of all four quarters.

472. Marketing Strategy and Policy. The course focuses on strategic marketing decisions, including the development of marketing objectives and strategies and the implementation of these strategies through pricing, channel, promotion, and new product decisions.

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.


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.

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.

478. Seminar on Action Research and Policy Position Papers (1 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.

Dr. Cornell, Mr. Mason
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. Conney, D.S.W., Chair
Jeanne M. Giovannoni, Ph.D.
Doris S. Jacobson, Ph.D.
Alfred H. Katz, D.S.W.
Harry H. 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 Bonnell, 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 Monteirro, M.S.W., Visiting
David Shapiro, Ph.D., Visiting
Bernice Sokol, M.S.W., Adjunct

Fieldwork Consultants
Katherine M. Kolodziej, D.C.S.W.
Jane E. Kurth, M.S.W.
Joseph Nunn, M.S.W.
Jaime Soliz, M.S.W.
Wilfred 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 586A and 587A 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 advisor. 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/were 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 (1 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 (1 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 (1 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 (1/2 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 (1/2 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 (1/2 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 approval 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 (1/2 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 (1/2 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 (1/2 course). Prerequisite: consent of instructor. Study of income-maintenance policy and services. Introduces theory and research about selected levels of living, living standards as a 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.
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

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 Caputo, M.S., Ph.D. (Biomaterials Science)
Ferrnin A. Carranza, Jr., D.D.S., Dr. Odont.
Announcements (Periodontics)
Spilto 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 Jung, Ph.D.
E. Barrie Kenney, D.D.S., M.S. (Periodontics)
Frank J. Krakowchil, D.D.S. (Removal Prosthodontics)
Carol M. Newton, M.D., Ph.D. (Biostatistics)
Max H. Schoen, D.D.S., M.P.H., Ph.D. (Public and Preventive Dentistry)
G. Douglas Silver, F.D.S., M.R.C.S. (Oral Medicine)
Robert P. Thye, D.M.D., M.S., Clinical (Restorative Dentistry)
Stuart C. White, D.D.S., Ph.D. (Oral Radiology)
Alfred Weinstock, D.D.S., Ph.D. (Periodontics)
Fred Herzberg, D.D.S., M.S., Mentorus
Norman S. Simmons, M.D., Ph.D., Emeritus

Associate Professors

Gerald C. Brundo, D.D.S., M.A. (Restorative Dentistry)
Glenn Clark, D.D.S., M.S. (Gnatology)
Joseph P. Cooney, D.D.S., M.S. (Restorative Dentistry)
Donald F. Duquon, 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. Vaglia, 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 Mikulicz-Sjögren syndrome, and effects on the dentition; (2) dental pulp: development, normal physiology, and reparative mechanisms; (3) organization of sensory systems, receptors, pathways, and central projections; (4) dentinal pain mechanisms, hydrodynamic theory, and electrical recordings from dentin; (5) taste receptors: mechanisms of perception of four basic tastes, alterations of taste caused by drugs, diseases, and aging; (6) oral touch and temperature receptors: comparison with similar systems in the skin, assessment of sensory dysfunction; (7) speech: phonation, resonance, and articulation in speech production, normal time-course of development of various sounds in children. Classes are supplemented with audiovisual materials and many references from the literature.

Mr. Junge (F)
vascular systems will be reviewed in reference to the intestines, and the related lymphatic and blood vascular 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 Rhythmic 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 sucking, 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 on this topic.

Mr. Gay (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 (¼ 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)
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 facilities, 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.
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 non-clinical 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.

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 anesthetist, 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 non-clinical 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.
Nathanial A. Buchwald, Ph.D., in Residence
Caroline D. Clemente, Ph.D.
Edwin L. Cooper, Ph.D.
Jean S. de Vellis, Ph.D., M.R.C.P., F.A.C.P.
Nathaniel A. Buchwald, Ph.D., in Residence
George W. Bernard, D.D.S., Ph.D.
Earl Eldred, M.D., Vice Chair
Jerome Engle, 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.
Ronald M. Harper, Ph.D.
Jose P. Segundo, M.D.
David S. Maxwell, Ph.D.
G. Douglas Silva, F.D.S., M.R.C.S., L.R.C.P.
(Dentistry and Medicine)
M.B. Sterman, M.B., Ch.B., M.R.C.S., L.R.C.P.
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 attend 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. Dickens, Mr. Young, and the Staff (F)

102A-102B. Gross Anatomy of the Human Body (1/2 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 (or equivalent) in basic and progress grading. Mr. Harper and the Staff (W,Sp)

103A-103B. Basic Neurology (1/4 course, 3/4 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 laboratories dealing with the functional organization of the nervous system. In Progress grading. Mr. Schlag and the Staff (W,Sp)

104. Mammalian Histology (1/4 course). Lecture/laboratory, three-three hour sessions per week. Prerequisite: one-three hour session per week. Lecture, two hours; discussion, one hour. 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. Prerequisite: diagnostic anatomy. 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. Lecture 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. 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 (1/2 courses, 1 course). (Same as Neuroscience M206A-M206B.) Lecture, three hours; laboratory, two hours (Winter). Lecture, six hours; laboratory, two hours (Spring). Prerequisite: consent of instructor. An introductory overview of the nervous system as a biological system. Fundamental approaches to neuroanatomy (Winter), neurophysiology and the brain mechanisms for behavior (Spring) will be stressed. In Progress grading. Prerequisite: consent of instructor. Mr. Decima, 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 (Spring). Prerequisite: consent of instructor. Lecture 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. Lectures on basic principles 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. Thimothey (F,W)

209. Fine Structure and Function in the Central Nervous System (1/2 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 immuno (1/2 course each). Prerequisite: consent of instructor. Fall Quarter: discussion of one-hour lectures on the various components of inflammation and other nonspecific systems and their interrelation with neoplasia and specific immune phenomena. Winter Quarter: discussion is continued 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 (1/2 course). Lecture/discussion, one-two hour session per week; laboratory, to be arranged. Prerequisites: microscopic anatomy, mammalian physiology. Anatomical and physiological processes in alerting, learning, focusing attention, and memory. Mr. Woody (F)

212. Neural Mechanisms of Inhibition (1/2 course). Prerequisite: basic neurology. A systematic consideration of inhibitory processes in the nervous system from the synonymous to integrated behavior. Special attention is given to the recent concepts of inhibition at the behavioral level and their implications for learning, emotion, and memory. Mr. Sterman (F, even years)

213. Multigene Families. (Same as Biology M220.) Prerequisites: comparative genetics and Biology 144 or equivalent and consent of instructor. Analysis of nucleic acid development, 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 (1/2 course each). (Same as Oral Biology M224A-M224B) Prerequisites: histology, biochemistry. A 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 (1/2 course). (Same as Oral Biology M214.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Embryology of bone, as an anlagen, as an organ; growth and development of specific bones; biochemistry and physiology of bone; remodeling of bone; crystallography of hydroxyapatite; pathologic calcifications; pathology of bone; mechanisms and lineage of calcification; clinical correlation. Mr. Bernard (W)

M226. Brainstem Control of Rhythmic Movements. (Same as Kinesiology M243; lecture is the same as Oral Biology 207, which is 1/2 course only.) Lecture, two hours; discussion, two hours. Discussion of the central nervous systems which co-ordinate and control the contraction patterns of the muscles which are involved in behaviors such as sucking, 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 (1/2 course). (Same as Neuroscience M235 and Physiol 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. Ms. Brecha, Ms. Reeves, Ms. Tache (W)

251. Problems in Developmental and Comparative Endocrinology (1 course). Prerequisite: consent of instructor. Review of current literature emphasizing early development and evolution of immunity competence. Mr. Cooper (W)

252. Seminar on Basic and Quantitated Neurophysiology (1 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 ninety-minute sessions and one two-hour session per week. Prerequisite: consent of instructor. A seminar in which students will critically evaluate and discuss the literature in the field of the physiological basis of communication. In Progress grading. Mr. McGinnis (W)

256. Seminar in Cell Structure and Function (1/2 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. Dickens and the Staff (W,Sp)

258. Seminars in Neurosciences (1 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)

260. Fundamental Concepts of Neuroendocrinology. (Same as Neuroscience M260.) Lecture, two hours; discussion, two hours. Prerequisites: consent of instructor. Taught in a seminar format. Topics include the paraventricular hypothalamus (PVN), other hypothalamic nuclei, GnRH, neurotransmitters, peptide hormones, the autonomic nervous system, and their interactions. Mr. Gorski (W, odd years)
M261. Neuronal Circuit Analysis (1/2 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 (1/2 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 (1/2 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 (1/2 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)

511. Cooperative Program (1/2 to 2 courses). Prerequisite: consent of UCLA graduate advisor 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 (1/2 to 3 courses).

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examination (1/2 to 3 courses).


599. Dissertation Research for Ph.D. Candidates (1/2 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)

108A-108B. History of Biological Sciences. (Same as History M195F-M195G.) Lecture, three hours. Prerequisite: upper division standing. 108A. Biological Sciences from Ancient Times to the Early 19th Century. 108B. 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 (1/2 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 (1/2 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 (1/4 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 (1/4 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 (1/4 course). Survey of the history of medicine in the United States from the Colonial period to the present. Mr. Agnew (W)

246. History of Neurophysiology: Its Impact on Psychology and Medicine (1/2 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, and 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 (1/4 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 (1/2 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)
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 anesthesia 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: 131/2. all must be graduate-level courses.


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 ANA for program completion.

Graduate Courses

210A. Chemistry and Physics of Nurse Anesthesia I (1/2 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 (1/2 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 (1/2 course). Lecture, two hours; discussion, one hour. 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

210D. Pharmacy of Nurse Anesthesia I (1/4 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 toxicity as related to anesthetic agents.

Mr. Flacke

220A. Respiratory Anatomy and Physiology for Nurse Anesthetists I (1/2 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. Ms. Ward

220B. Respiratory Anatomy and Physiology for Nurse Anesthetists II (1/2 course). Lecture, two hours; discussion, one hour. A continuation of respiratory anatomy and physiology with emphasis on the respiratory system as related to management and relevant problems.

Ms. Tanaka

221. Cardiovascular Anatomy and Physiology for Nurse Anesthetists (1/2 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.

Ms. Tanaka

222. Biological Control Systems. (Same as System Science M222F) Prerequisite: Engineering 122 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

230. Behavioral Management of Pain Problems (1/4 course). (Same as Psychiatry M230) 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. McCravy

290. Anesthesia Seminar for Nurse Anesthetists (1/4 course). Discussion, two to three hours. Discussion of special problems in anesthesia of interest to the student.

Ms. Katz and the Staff

400A. Basic Clinical Anesthesia for Nurse Anesthetists I (1/2 course). Lecture, three hours; laboratory, thirty hours. Prerequisite: course 400. Correlation of techniques of anesthesia administration with basic science knowledge as applied in the clinical area with supervised practice. S/U grading.
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 598A. 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

Biological Chemistry

33-257 Center for Health Sciences, 825-6545

Professors
Roelyn 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.
Marlan E. Swendseid, Ph.D.
William T. Wickner, M.D.
Irving Zabin, Ph.D.
Robert M. Fink, Ph.D., Emeritus
Ralph W. McKeel, Ph.D., Emeritus
Joseph F. Nyc, Ph.D., Emeritus
Emil L. Smith, Ph.D., Emeritus
Stephen Zamernik, 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 McIntee, Ph.D.
Leonard H. Home, 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 (considered above for all students, elective courses are graded S/U and may be taken as often as necessary (2-12 units each time).

**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) (½ 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. Snake 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. G. and Mr. Roberts.

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.


Mr. Martinson, Mr. Tobin, Mr. Wall
M253. Steroid Hormones (1/2 course). (Same as Biology M253). 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’Cnnor

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 mutation, recognition, recombination, genetic mapping, complementation, transposable elements, gene organization, genetic regulation, and molecular evolution.

Ms. Calame, Ms. Dixon, Mr. McEntee

M253. Macromolecular Structure (1 course). (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 macromolecules, with emphasis on the relationship of structure to function and regulatory properties of enzymes; correlation of structure and physical properties; chemical synthesis and properties of polypeptides and polynucleotides.

M255. Enzymes, Metabolism, and Regulation (1 course). (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 appropriate aspects of metabolism in relation to physiological function; enzymic mechanisms and methods for their study.

M257. Physical Chemistry of Biological Macromolecules (1/2 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 (1 course). Prerequisites: courses 101A-101B or 201A-201B or Chemistry 110A, 156, 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 membranes, the 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 (1/2 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 (1 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 (1/2 course). Lecture or recitation, one hour. Prerequisite: course M253 or equivalent. Biochemistry and chemistry of nucleic acids and nucleotides.

Mr. Giltz

266A-266B-266C. Seminar in the Biochemistry of Differentiation (1 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 (1 course). (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 (1/2 course). (Same as Chemistry M269). Prerequisite: course M257 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 model systems.

Mr. Harary, Mr. Herschman

M298. Seminar in Current Topics in Molecular Biology (1/2 course). (Same as Biology M298, Chemistry M298, Microbiology M298, 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 (1/2 to 1 course). Prerequisite: consent of graduate adviser. S/U grading.

597. Preparation for Examinations (1/2 to 1 course). Prerequisite: consent of graduate adviser. Individual study for Ph.D. qualifying examination or M.S. comprehensive examination. S/U grading.


Biomathematics

AV-617 Center for Health Sciences, 825-5800

Professors

Abdelmonem A. Alfii, 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.
David S. Phillips, Ph.D.
Edward D. Schumaker, Ph.D.
Anne Speene, Ph.D., in Residence

Associate Professors

David R. Beal, Ph.D.
David M. Bick, Ph.D.
Kenneth D. Breitman, Ph.D.
Peter M. Chao, Ph.D.
William L. Good, Ph.D.
James H. Gray, Ph.D.
Richard A. Johnson, Ph.D.
James A. King, Ph.D.
David C. Langford, Ph.D.
Kenneth L. Lange, Ph.D.

Scope and Objectives

As biology advances rapidly in quantitative research methods, both the need for and possibility of closely associated theoretical research increases. On numerous medical and medical/ science frontiers — such as human genetics, oncology, pharmacology, neurosciences, and physiology — 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 organism-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)

596. Independent Research. Independent work toward the solution of problems in one of the basic fields of study. Only graduate students may be registered by a committee consisting of at least three members; these members must be approved by the departmental advisory committee, which must be given a copy of the agreement of the student and department. By individual study or coursework, the student should have strength in differential equations, probability and statistics, and real and complex analysis. Offerings in the Department of Mathematics are especially recommended. The student should be familiar with relevant literature. It is expected that the student will critically probe the quality, scope, and feasibility of the proposed dissertation work. It will also explore the strength of biomathematical, mathematical, and biological-biomathematical research in the intended area of expertise. You advance to candidacy after passing this examination.
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 cyto genetics, biochemical genetics, population genetics, and familial studies. Lectures and readings in the literature will focus on current questions in the fields of medical and clinical genetics and the methodologies appropriate to answer such questions. Concurrently scheduled with course CM256.

Mr. Merriam, Ms. Spence (W)

170A-170B. Selected Biometricahical Topics for Researcher. (Formerly numbered 170A-170B-170C.) Lecture, four hours; discussion, 90 minutes. Prerequisites 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.

171A-171B. Selected Topics for Dental Researchers (1/2 course each). Instruction in critical and efficient reading of the dental literature, experimental design, analysis of data using BMIDP programs, and some advanced mathematical techniques. Review of modern mathematical techniques in craniofacial research and other areas of interest to dentistry students. In Progress grading.

Mr. Elashoff (Sp)

190A-190B. Honors Research in Biometry. Prerequisites: upper division standing, consent of instructor and department Chair. Individual research in some aspect of biometrics 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 (1/2 to 2 courses). Prerequisites: upper division standing and consent of instructor. Independent study 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 (1/2 course). Prerequisite: consent of instructor. A series of presentations to acquaint the faculty on research frontier in biomathematics.

Mr. Lange (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 the implications of the solutions where they may be expected to fail. Topics include compartmental analysis, enzyme kinetics, physiological control systems, and cellular/animal population models. Models are developed from biological principles to complex dynamical systems.

Mr. Lange (Sp)


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 inapplicable. 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 electrostatics, or consent of instructor. Review of electrostatics; potential problems in rectangular, spherical, and cylindrical coordinates; modeling of threshold electrical properties of cells; microelectrode measurements of intra-cellular potentials; boundary conditions for current flow; membrane potential expansions and singular perturbation analysis of intracellular extracellular potential distribution in spherical and cylindrical cells and synapses; computation of potential barriers for ions traversing a membrane pore.

Mr. Peskohef (Sp)

206. Modeling of Cellular Systems (1/2 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 experimental results and theoretical results which lead to new conjectures. Topics are selected from recent literature.

Modeling approaches to simple dividing systems. Biological assumptions, indications for various approaches, and relationships to laboratory research and clinical applications are emphasized.

Ms. Newton (W)

207. Modeling in Genetic Analysis. (Same as Anthropology M222L.) 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, linkage analysis, and various techniques for the analysis of categorical data. Discussion and illustration of their applications and limitations.

Mr. Korn (W)

224. Probability Models and Statistical Methods in Genetics. (Same as Anthropology M222G.) Lecture, three hours. Prerequisites: Anthropology M222Q and Mathematics 3A, two quarters of statistics, graduate standing. An introduction to probability models and statistical methods in genetics. Maximum likelihood methods for estimating genetic 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 inquiry will be presented, with particular emphasis on 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.

Mr. Spence (F)

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 cyto genetics, 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 CM256.

Mr. Merriam, Ms. Spence (W)

260. 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 and analyzer characteristics of CT, physics in CT, and various biomedical applications.

Mr. Huang (W)

231. Special Topics: Statistical Methods for Controlled 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. Introduction to statistical techniques for the analysis of categorical data; discussion and illustration of their applications.

Mr. Perquin (F)

224. Probability Models and Statistical Methods in Genetics. (Same as Anthropology M222G.) Lecture, three hours. Prerequisites: Anthropology M222Q and Mathematics 3A, two quarters of statistics, graduate standing. An introduction to probability models and statistical methods in genetics. Maximum likelihood methods for estimating genetic 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 inquiry will be presented, with particular emphasis on 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.

Mr. Hodge (Sp)
M292. Problems of Statistical Consultation. (Same as Public Health M202E.) Lecture, two hours; discussion, one hour; laboratory, two hours. Prerequisites: graduate course in applied statistics. Textbook and original problems requiring special expertise in design and analyses. 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 (1/2 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 (1/2 to 2 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. Hidemann, Ph.D. (Immunology)
Dexter H. Howard, Ph.D. (Microbiology)
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
Jerrod A. Turner, M.D. (Parasitology)
Marietta Voge, Ph.D. (Parasitology)
Randal Wall, Ph.D. (Molecular Biology)
Felix O. Weltstein, Ph.D. (Molecular Biology)
Telford H. Work, M.D., M.Ph.H., D.T.M.&H. (Virology)
A. B. Boak, M.D., Ph.D., Emeritus
David McVickar, M.D., Ph.D., Emeritus
Margaret I. Sellers, Ph.D., Emeritus
Stephen Zamenhof, Ph.D., Emeritus

Associate Professors
Benjamin Bonavide, Ph.D. (Immunology)
George Fareed, M.D. (Molecular Biology)
Sidney H. Golub, Ph.D., in Residence (Immunology)
Ronald H. Stevens, Ph.D. (Immunology)
Jacob Ziegelboim, M.D. (Immunology)

Assistant Professors
John Braham, 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. (Microbiology)
Alan Davis, Ph.D. (Virology)
Yoko S. Mullan, 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 biomedical 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 (Graduate Record Examination or General Graduate Record Examination).
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 immunonchemistry; 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 immunochrometry and immunobiology. State of the art advanced technology for performance of experiments in modern immunology in a workshop format. Each workshop is of approx. 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 viral agents of parasitic 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 immunonchemistry; cellular and molecular aspects of humoral and cell-mediated immune functions. (F, first week 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 cellular and multicellular hosts, introduction to tumor viruses.

(F)

202D. Medical Mycology and Parasitology (½ course). (Formerly numbered 202.) Prerequisite: consent of instructor. 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 enteritis, will be discussed. 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, general microbiology, including immunology (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 control. Special emphasis is placed in understanding the molecular mechanisms involved in the control and regulation of replication, transcription, and translation of viral genome and its complex interaction with host cell.

Mr. Nayak (Sp)

210. Medical Mycology (½ course). Prerequisites: Microbiology 101, C103A, C103B, and M185. Recommended: Microbiology 110 (consent of instructor may be obtained in special cases). Laboratory applications of principles discussed in course 210. Laboratory must be taken by undergraduate students.

Mr. Howard (Sp)

M210. Laboratory Procedures in Immunological Research (½ course). (Same as Microbiology M210.) Prerequisites: courses M185 or equivalent and consent of instructor. Limited to 25 students (enrolled 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.

Dr. Lovett, Mr. Miller (W)

M215. Interdepartmental Course in Tropical Medicine (1½ course). (Same as Medicine M215, Pathology M215, and Pediatrics M215.) Prerequisites: courses in parasitic diseases in medicine and parasitology of infectious diseases in the School of Medicine or Public Health. The course covers a wide variety of parasitic diseases. Topics include the morphology, pathology, and control of protozoa, helminths, and arthropods parasitic in and on humans and animals.

(F, W, Sp)

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 cellular biology. Topics include recent advances in cell biology, biophysical methods, and regulation of genes in eukaryotic cells. S/U grading.

(Mr. Wall)

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 in the light of recent developments.

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 results, their interpretation, and evaluation. S/U grading.

256. 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 subject and publications dealing with virus oncosis, virus-host interaction, 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 M255A.) Corequisite: course M201 or M202A, 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 in the past five years. Feature will be lectures dealing with 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.

Mr. Miller, Mr. Pickett (Sp)

M258B. Advanced Immunology (½ course). (Same as Biology M250B and Microbiology M255B.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: course M201 or M202A, or equivalent, and course M258A, or consent of instructor. A continuation of course M258A which will consider the fields of immunogenetics, surface membrane receptors, and lymphokinetics. S/U or letter grading.

Mr. Miller, Mr. Pickett (Sp)

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)


Mr. Golub (Sp, alternate years)

282. 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 genetics, tumor immunology, humoral response, tumor specific antigens, and new techniques. Reports on scientific meetings will be discussed and evaluated. S/U grading.

Mr. Bonavida (W)

M283. Cellular Immunology Seminar (½ course). (Same as Microbiology M283.) 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)

284. Molecular Microbiology and Cell Biology (½ course). Prerequisites: courses M204A, M202B, M202C, M202D, 202E, 202F, 202G, or consent of instructor. Discussion of selected current topics related to microbial and cell biology; with special emphasis on an understanding of the basic phenomena at the molecular level.

Mr. Wettstein (F)

285. Co-Seminar in Molecular Biology of Animal Viruses (½ course). Prerequisites or corequisites: course M208 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. Nyak (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 (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. Nyak (Sp)

M282. Major Histocompatibility Complexes: Genetics, Biochemistry, and Biology (½ course). (Same as Biology M282.) Lecture, one hour; discussion, one hour. Prerequisite: 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 Microbiology M293 and Pathology M292.) 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 cytotoxic therapy, 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.

Mr. Hankinson, Mr. Seeger (W)

596. Directed Individual Study or Research (1/2 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.

599. Research for and Preparation of Ph.D. Dissertation (1/2 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)
Carmin 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. (Biophysics)
Charles D. Woody, M.D., in Residence (Anatomy)
Stephen Zamenholz, Ph.D., Emeritus (Microbiology and Immunology)

Associate Professor

Michael S. Lelinsky, 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 mysterious 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 biometrics 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 Psychology M201A-M201B-M201C.) Prerequisite: consent of instructor, three credits in introductory psychology. M201A focuses on research studies designed to take into account the functional behavior of animals. M201B focuses on special questions of interest to students.

Mr. McGuire (F,WSp)

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 studying surveys of its developmental anatomy, intrinsic synaptic organization, synaptic chemistry, afferent and efferent circuits, and dysfunctions in memory and cognition associated 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 (½ course). Prerequisite: consent of instructor. Emphasis will be placed on behavioral designs, methods, and instruments employed to test specific neurological afferent-afferent 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 (1½ courses, 1¼ courses). (Same as Anatomy M206A-M206B.) Lecture, three hours; laboratory, two hours (Winter), 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 major scientific areas, with an emphasis on 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, neuropsychology, 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 normal fetuses and infants. Behavior will be correlated with the development of the brain during this period of rapid change in both.

Mr. Parmerlee M260. Fundamental Concepts of Neuroendocrinology: Hypothalamus and Pituitary Gland (½ course). 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. Eduson 597. Preparation for Ph.D. Qualifying Written Examination (½ to 3 courses). Prerequisite: consent of instructor.

Mr. Eduson 599. Dissertation Research for Ph.D. Candidates (1 to 3 courses). Designed for students requiring special instruction or time to work on dissertation.

Mr. Eduson
Pathology

13-327 Center for Health Sciences, 206-6307

Professors
Marcel A. Baudou, Ph.D.
Luciano Barajas, M.D., in Residence
W. Jann Brown, M.D.
Alastair 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. Myhré, 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 Verty, M.D.
Roy L. Wallord, M.D.
Luciano Zamboni, M.D., in Residence, Vice Chair
William H. Carnes, M.D., Emeritus
Sidney Maddon, 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, 234A, 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 (1/4 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.

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 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 (1½ 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 (1½ course each). Prerequisite: consent of instructor. Description of intracellular information flow in mammalian cells by stimulation of different natures, as well as induced changes such as induction, repression, differentiation, and 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.) Prerequisite: Immunology course and consent of instructor. Study of the role of immunologic phenomena in the production of lesions and disease. Topics include immune complex disease, anitbodies, antibody, immunologic mediators, cell-mediated immunity, and infectious diseases.

Mr. Glasscock, 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 (½ 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 relationships 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 fixation, tissue culture, and radioautography (electron microcopy, 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

255. 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 subject matter will be public choice with tumor viruses, oncogenesis, development, and cellular regulation.

Mr. Baluda

257. 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

258. 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 anatomic structures. General principles of estimation of volume, surface area, and number are covered by stereology and other techniques. Mr. Berliner

261A-261B-261C. Laboratory Rotation (½ course). (Formerly numbered 251A-251B-251C.) Laboratory, six hours. An introduction to research with individual instructors, laboratories.

Mr. Berliner

M293. Major Concepts in Oncology. (Same as Microbiology and Immunology M293 and Oral Biology M293.) Lecture, three hours. Prerequisites: 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 2 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.


### 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**
- Sherrill 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 in order to qualify.

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 (3 courses). Prerequisite: consent of instructor and department Chair. Special studies in pharmacology, including reading assignments or laboratory work or both, designed for appropriate training of each student.

Graduate Courses

200. Introduction to Laboratory Research (1 course). Prerequisite: consent of instructor and department Chair. 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

Final Oral Examination

A final oral examination is administered upon submission of the dissertation.

Teaching Experience

Seminars 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.
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 changes in behavior or as pronounced 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 this 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 present 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 instructor. Biochemical and systemic toxicology; basic mechanisms of toxicity, 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, brain, 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 Clani, Ph.D.
Jared M. Diamond, Ph.D.
George Eisenman, M.D.
Alan D. Grinnell, Ph.D.
Susumu Hagihara, M.D., Ph.D. (Eleanor I. Leslie Professor of Neuroscience)
Earl Homsher, Ph.D.
Douglas Junge, Ph.D.
Glen A. Langer, M.D. (Casteria Professor of Cardiology)
Wilfred F.H. Mombaerts, 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.
Berrice M. Wenzel, Ph.D.
Brian Whipp, Ph.D.
Ernaes B. Wright, D.Sc.
Mary A.B. Brazer, D.Sc., Emeritus, in Residence
John Field, Ph.D., Emeritus
Donald B. Lindley, Ph.D., Emeritus

Associate Professors

Thomas Berglindh, Ph.D., in Residence
Joy Frank, Ph.D., in Residence
Sally Krasne, Ph.D.
Michael S. Latinsky, 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 Scremen, 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. Homser and the Staff (F)

101. Neuromuscular and Cardiovascular Physiology (1½ courses). Prerequisites: basic courses in chemistry, physics, and biology, at least one year each; organic chemistry, biochemistry, gross anatomy, human or comparable. Primarily for first-year medical students, but open to other students by consent of instructor. Lectures, laboratories, 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. An analysis of the electrical properties of muscle and nerve, the contractility of muscle and the heart, and the cardiovascular system and its regulation.

Mr. Tormey, Ms. Wenzel (Sp)

103A-103B. Basic Neurology (1½ courses, 4/ 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.

Dr. Chatterton and the Staff (W, Sp)

105H. Human Physiology. Prerequisite: nursing student standing or consent of instructor. Required of third-year nursing students. Lectures and discussion emphasizing a correlative approach to anatomy and physiology of the human body. In Progress grading.

Ms. Seraydarian (F)

199. Special Studies (1/2 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, 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 non electrolytes, active transport of sugars and organic acids, active ion transport, and the mechanisms of water transport. Experimental work involves the transport of ions across single cells and epithelia using radioactively labeled tracers and electrophysiological techniques.

Mr. Wright

202. Permeability of Biological Membranes to Ions (1½ courses). Prerequisites: Chemistry 113B and 113C, or equivalent, or consent of instructor. Topics include ion permeation mechanisms, ion distribution across 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-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) dental pain mechanisms, hydrodynamic theory, and electrical recordings from dentin; (5) taste receptors: mechanisms of perception of four basic tastes, alterations of taste caused by diseases, and aging; (6) oral touch and temperature receptors: comparison with similar systems in the skin, acclimatization 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 the study of membrane structure, carbon ion processes 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: chemical physics (equivalent to course 205 or Mathematics 33A), and courses in quantum mechanics, differential equations, and mechanics of matter. The emphasis will be on the particular circuits or models permeability phenomena are based on, and the behavior of systems of particles. The behavior of systems of particles is an example of a more general class of systems which are described by the equations of motion of interacting particles. These equations are solved by numerical methods and are compared with experimental data.

Mr. Ciani, Ms. Krasne

212A-212B-212C. Critical Topics in Physiology (1/2 to 2 courses each). Prerequisites: consent of instructor. A seminar to present advances 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 laboratories 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 that are used in the laboratory.

Mr. Bezanilla, Mr. Vergara


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 conductance, models of transport and conduction, and biophysics of transport phenomena. The material will be presented in semi-quantitative terms. Rigorous in-depth coverage is offered in course 213.

217. A Survey of Transport Processes in Biological Membranes. Prerequisite: consent of instructor. An introduction to the transport ions, non-electrolytes, and water across plasma membranes of single cells and epithelia. Lectures include such topics as membrane structure, biochemical 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 neural 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, relaxation, contractile coupling, calcium regulation of contraction, myofilament interactions, energetics mechanics, and chemical kinetics of contraction in vertebrate muscle.

221A-221B-221C. Concepts of Excitation and Control in Nervous System. Prerequisites: 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 (1/2 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 (1/2 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 neurophysiology. Mr. 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. An 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 gram-negative bacteria 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 on the physical and chemical principles that underlie the behavior of lipid bilayer membranes, both artificial and natural.

227. Theoretical Problems in Membrane Permeation (1/2 course). Prerequisite: consent of instructor. Tutorial directed to specific theoretical problems of interest to the student. Mr. Ciani

228. Epithelia: Structure and Function (1/2 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 (1/2 course). Prerequisite: consent of instructor. Discussion of current literature covering research problems in neurobiology. S/U grading. Dr. Leatisky

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 (1/4 to 1/2 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.

2325. Gut and Brain Peptides (1/4 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 and stochastic analysis; introduction to theory of stochastic processes; renewal theory; discrete and continuous-time Markov processes; analysis of kinetic models of channel gating; applications for single channel and "nois" measurements. S/U or letter grading.

Mr. Horn

251A-251B-251C. Seminar in Physiology (4 course each). Prerequisite: consent of instructor. Review and discussion of current physiological literature, research in progress, and special topics.


260. The Use of Laboratory Animals in Research. (Formerly numbered M232.) 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

267. Developmental Neurobiology. Lecture, two hours; discussion, two hours. Prerequisites: Biology 171 or equivalent and consent of instructor. The course focuses on processes governing the formation and differentiation of neurons, synapticogenesis, and specificity and plasticity in neuronal and nerve-muscle connections. Mr. Arnold, Mr. Grinnell

595. Directed Individual Study or Research (1 to 3 courses). Prerequisite: consent of instructor.

597. Preparation for Ph.D. Qualifying Examination or M.S. Comprehensive Examination (1 to 3 courses). Prerequisite: consent of instructor.

598. Thesis Research for M.S. Candidates (1 to 3 courses). Prerequisite: consent of instructor.

599. Dissertation Research for Ph.D. Candidates (1 to 3 courses). Prerequisite: consent of instructor.

Wilfred J. Dixon, Ph.D. (Biobehavioral Sciences)
Robert B. Edgerton, Ph.D., in Residence (Biobehavioral Sciences)
Bernice T. Eisdon, Ph.D., in Residence (Medical Psychology)
Samuel Edson, 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 (Biobehavioral Sciences)
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. Goldscheidt, Ph.D. (Biobehavioral Sciences)
Milton Greenblatt, M.D., Executive Vice-Chair (Biological Sciences)
Donald Guthrie, Ph.D., in Residence (Biobehavioral Sciences)
Angelas E. Halais, M.D., in Residence (Biobehavioral Sciences)
John Hanley, M.D., in Residence (Biological Sciences)
Frank W. Hayes, M.D., in Residence (Biological Sciences)
Frank E. Hebbett, Ph.D. (Biobehavioral Sciences)
Chester D. Huff, Ph.D., in Residence (Biobehavioral Sciences)
Lissy F. Jarvik, Ph.D., M.D.
Murray E. Jarvis, M.D., Ph.D.
Harry J. Jessen, Ph.D., in Residence (Biobehavioral Sciences)
John G. Kennedy, Ph.D., in Residence (Biobehavioral Sciences)
Arthur King, M.D., in Residence (Biological Sciences)
Lewis L. Langness, Ph.D., in Residence (Biobehavioral Sciences)
Henry Leese, M.D., in Residence (Biological Sciences)
Robert P. Liberman, M.D., in Residence (Biological Sciences)
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. Marsh, 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)
William H. Oldendorf, M.D., in Residence (Biological Sciences)
Edward M. Ornitz, M.D., in Residence (Medical Sciences)
Alfonso Paredes, M.D., in Residence (Medical Psychology)
Robert O. Pasnau, M.D., in Residence (Medical Psychology)
Morris J. Paulson, Ph.D., in Residence (Medical Psychology)
Dennis D. Pointer, Ph.D. (Biobehavioral Sciences)
George J. Popjak, M.D.
Douglas R. Price-Williams, Ph.D., in Residence (Biobehavioral Sciences)
Edward R. Rife, M.D., in Residence (Biobehavioral Sciences)
Alexander C. Rosen, Ph.D., in Residence (Medical Psychology)
Robert T. Rubin, M.D., in Residence (Biobehavioral Sciences)
Paul Satz, Ph.D., in Residence (Neuropsychology)
Arnold B. Scheibel, M.D.
Eustace A. Serafinides, M.D., Ph.D., in Residence (Biobehavioral Sciences)
David Shapiro, Ph.D. (Medical Psychology)
Edwin S. Shneidman, Ph.D., in Residence (Biobehavioral Sciences)
Arthur B. Silverstein, Ph.D., in Residence (Thanatology)
James Q. Simmons, M.D., in Residence (Medical Psychology)
David A. Silverstein, M.D. (Neuropsychology)
Robert S. Sparks, M.D.
M. Anne Spence, Ph.D., in Residence (Biobehavioral Sciences)
Maurice B. Sterman, Ph.D., in Residence (Biobehavioral Sciences)
Rama K. Nadella, M.D., in Residence
Keith H. Neubuchlein, Ph.D., in Residence (Medical Psychology)
Charles E. Olmstead, Ph.D., in Residence (Physiological Psychology)
Robert S. 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 Yuenwie, Ph.D., in Residence (Biobehavioral Sciences)
Norman Q. Brill, M.D., Emeritus
Horace W. Magoun, Ph.D., Emeritus (Biobehavioral Sciences)
Fredrick C. Radlisch, M.D., Emeritus
Frank F. Tallman, M.D., Emeritus
Fredrick C. Redlich, M.D., Emeritus
Jaime R. R. Villablanca, M.D., in Residence (Neurophysiology)
Villablanca, M.D., in Residence
Robert J. Stoller, M.D.
Peter E. Tanguay, M.D., in Residence
George Tarjan, M.D.
Claudelih Thoms, M.D., in Residence
J. Thomas Ungerleider, M.D., in Residence
Jaime R. Villablanca, M.D., in Residence
(Neurophysiology)
R. Baxter, M.D., in Residence
Edward Geler, Ph.D., in Residence (Biobehavioral Sciences)
Kay R. Jamison, Ph.D., Emeritus (Biobehavioral Sciences)
I. Tymchuk, D.O., in Residence (Neuroanatomy)
Gloria J. Powell, M.D., Emeritus (Biobehavioral Sciences)
Michael S. Levine, Ph.D., in Residence (Biobehavioral Sciences)
Marvin Kano, M.D., in Residence
Keith T. Kernan, Ph.D., in Residence (Biobehavioral Sciences)
Michael S. Levine, Ph.D., in Residen
Joseph R. Jedrychowski, D.O.S. (Biobehavioral Sciences)
Gloria J. Powell, M.D., Emeritus (Biobehavioral Sciences)
Michael A. Strober, Ph.D., in Residence (Medical Psychology)
Alexander J. Tymchuk, Ph.D., in Residence (Biobehavioral Sciences)
Thomas S. Weissman, Ph.D., in Residence (Biobehavioral Sciences)
David K. Wettisch, Ph.D., Emeritus (Biobehavioral Sciences)
Gail E. Wyst, Ph.D., Emeritus (Biobehavioral Sciences)
Joel Yager, M.D., Emeritus (Biobehavioral Sciences)
Assistant Professors
Joan R. Asarnow, Ph.D., in Residence (Medical Psychology)
Robert F. Asarnow, Ph.D., Emeritus (Medical Psychology)
Carole Browner, Ph.D., in Residence
Sherrill 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)
Joseph Hultet, M.D., in Residence
Asenath LaRue, Ph.D., in Residence (Biobehavioral Sciences)
Ira M. Lesser, M.D., in Residence
Keh-Ming Lin, M.D., in Residence
Fred Loya, Ph.D., in Residence (Medical Psychology)
Stephen R. Marder, M.D., in Residence
R. Baxter, M.D., in Residence
Edward Geler, Ph.D., in Residence (Biobehavioral Sciences)
Kay R. Jamison, Ph.D., Emeritus (Biobehavioral Sciences)
I. Tymchuk, D.O., in Residence (Neuroanatomy)
Gloria J. Powell, M.D., Emeritus (Biobehavioral Sciences)
Michael S. Levine, Ph.D., in Residen
Joseph R. Jedrychowski, D.O.S. (Biobehavioral Sciences)
Gloria J. Powell, M.D., Emeritus (Biobehavioral Sciences)
Michael A. Strober, Ph.D., in Residence (Medical Psychology)
Alexander J. Tymchuk, Ph.D., in Residence (Biobehavioral Sciences)
Thomas S. Weissman, Ph.D., in Residence (Biobehavioral Sciences)
David K. Wettisch, Ph.D., Emeritus (Biobehavioral Sciences)
Gail E. Wyst, Ph.D., Emeritus (Biobehavioral Sciences)
Joel Yager, M.D., Emeritus (Biobehavioral Sciences)
Assistant Professors
Joan R. Asarnow, Ph.D., in Residence (Medical Psychology)
Robert F. Asarnow, Ph.D., Emeritus (Medical Psychology)
Carole Browner, Ph.D., in Residence
Sherrill 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)
Joseph Hultet, M.D., in Residence
Asenath LaRue, Ph.D., in Residence (Biobehavioral Sciences)
Ira M. Lesser, M.D., in Residence
Keh-Ming Lin, M.D., in Residence
Fred Loya, Ph.D., in Residence (Medical Psychology)
Stephen R. Marder, M.D., in Residence
Rama K. Nadella, M.D., in Residence
Keith H. Neubuchlein, Ph.D., in Residence (Medical Psychology)
Charles E. Olmstead, Ph.D., in Residence (Physiological Psychology)
Robert S. 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 Yuenwie, Ph.D., in Residence (Biobehavioral Sciences)
Norman Q. Brill, M.D., Emeritus
Horace W. Magoun, Ph.D., Emeritus (Biobehavioral Sciences)
Fredrick C. Radlisch, M.D., Emeritus
Frank F. Tallman, M.D., Emeritus
Fredrick C. Redlich, M.D., Emeritus
Jaime R. R. Villablanca, M.D., in Residence (Neurophysiology)
Villablanca, M.D., in Residence
Robert J. Stoller, M.D.
Peter E. Tanguay, M.D., in Residence
George Tarjan, M.D.
Claudelih Thoms, M.D., in Residence
J. Thomas Ungerleider, M.D., in Residence
Jaime R. Villablanca, M.D., in Residence
(Neurophysiology)
R. Baxter, M.D., in Residence
Edward Geler, Ph.D., in Residence (Biobehavioral Sciences)
Kay R. Jamison, Ph.D., Emeritus (Biobehavioral Sciences)
I. Tymchuk, D.O., in Residence (Neuroanatomy)
Gloria J. Powell, M.D., Emeritus (Biobehavioral Sciences)
Michael S. Levine, Ph.D., in Residen
Joseph R. Jedrychowski, D.O.S. (Biobehavioral Sciences)
Gloria J. Powell, M.D., Emeritus (Biobehavioral Sciences)
Michael A. Strober, Ph.D., in Residence (Medical Psychology)
Alexander J. Tymchuk, Ph.D., in Residence (Biobehavioral Sciences)
Thomas S. Weissman, Ph.D., in Residence (Biobehavioral Sciences)
David K. Wettisch, Ph.D., Emeritus (Biobehavioral Sciences)
Gail E. Wyst, Ph.D., Emeritus (Biobehavioral Sciences)
Joel Yager, M.D., Emeritus (Biobehavioral Sciences)
Assistant Professors
Joan R. Asarnow, Ph.D., in Residence (Medical Psychology)
Robert F. Asarnow, Ph.D., Emeritus (Medical Psychology)
Carole Browner, Ph.D., in Residence
Sherrill 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)
Joseph Hultet, M.D., in Residence
Asenath LaRue, Ph.D., in Residence (Biobehavioral Sciences)
Ira M. Lesser, M.D., in Residence
Keh-Ming Lin, M.D., in Residence
Fred Loya, Ph.D., in Residence (Medical Psychology)
Stephen R. Marder, M.D., in Residence
Rama K. Nadella, M.D., in Residence
Keith H. Neubuchlein, Ph.D., in Residence (Medical Psychology)
Charles E. Olmstead, Ph.D., in Residence (Physiological Psychology)
Robert S. 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 Yuenwie, Ph.D., in Residence (Biobehavioral Sciences)
Norman Q. Brill, M.D., Emeritus
Horace W. Magoun, Ph.D., Emeritus (Biobehavioral Sciences)
Fredrick C. Radlisch, M.D., Emeritus
Frank F. Tallman, M.D., Emeritus
Fredrick C. Redlich, M.D., Emeritus
Jaime R. R. Villablanca, M.D., in Residence (Neurophysiology)
Villablanca, M.D., in Residence
Robert J. Stoller, M.D.
Peter E. Tanguay, M.D., in Residence
George Tarjan, M.D.
Claudelih Thoms, M.D., in Residence
J. Thomas Ungerleider, M.D., in Residence
Jaime R. Villablanca, M.D., in Residence
(Neurophysiology)
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.) Prerequisites: 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 studied. Some of the uses of observations and their implications for research in the social sciences will also be discussed.

Mr. Galbraith, Mr. Levine, Mr. Turner (W)

M119. Evolution of Intelligence. (Same as Psychology W119.) 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 M133.) Prerequisites: Psychology 130. Study of the issues and research problems in the areas of mental retardation, giftfness, 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 deficient 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. Ms. Neuman

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 (premedical, medical school, internship, residency, and various specialty areas of private practice). Women trainees and physicians in various specialties participate in presentations. A research paper 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 in mental retardation 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 Problems in Mental Retardation. (Same as Psychology M180B.) Prerequisite: course M180A. Limited to Immersion Program students. Psychosocial issues in mental retardation relating literature to ongoing field experiences through lectures, discussions, media, and six student papers.

Mr. Baker


Mr. Silverstein and the Staff

M162A. Advanced Statistical Methods in Mental Retardation. (Same as Psychology M162A.) Prerequisites: Psychology 41. Limited to Immersion Program students. Introduction of statistical method and design in experimental principles of psychological and sociological methods. An introduction to the use of computers and various software packages is presented.

Mr. Olmstead

M162B. Advanced Design and Statistics. (Same as Psychology M162B.) Prerequisite: course M162A. Limited to Immersion Program students. Human information processing, both physical and psychological, with special emphasis on pathologies in the mentally retarded.

Mr. Galbraith

M162D. 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


Mr. West

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 broad biological perspective with the relevance of this material to the broader field 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 (1/4 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 (1 course). Prerequisite: consent of instructor. The colloquium establishes a vehicle for continuing education and updating knowledge 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 (1 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 functional behavior of animals. M201C focuses on special questions of interest to students.

Mr. Edelson, Mr. McGuire (F, Wsp)

207. Hypnosis Seminar (1/2 course). Prerequisites: training in psychodrama; knowledge of hypnosis, psychodrama, and hypnosis and related fields. Experiential seminar with guided reading and training in inductions, anesthesia, age regression, imagination techniques, directed regression, and space, therapeutic applications (including direct symptom removal, behavioral methods, and hypnosis), and training patients for self-hypnosis. Emphasis is on developing skills for application in clinical practice. S/U grading.

Ms. Holroyd
208A-208B-208C. Clinical Neuropsychology: Assessment of Brain Damage (1/2 course each). Prerequisite: 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 brain in children and 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)

208A-208B-208C. Behavior Therapy Practicum (1/2 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, sexual, and eating disorders. By means of a learning approach, training stresses learn behavioral analysis and assessment, personal effectiveness training, systematic and vivid desensitization, contingency contracting and management, and cognitive behavioral 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. Behavioral research in child development and socialization, personality, psychoanalytic theory, transcultural psychiatry, deviance, learning, perception, cognition, and psychocultural perspectives on culture. 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 various non-Western societies as background to the study of the phenomenon of mental retardation in the West, particularly the effect of social class and cultural aspects on cross-cultural perspectives, the history of institutionalization, 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 influence 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, and it will include problems of education in ethnic areas within the U.S.

Mr. Gallimore, Mr. Price-Williams


M214. Selected Topics in the Cross-Cultural Study of Socialization and Child Training. (Same as Anthropology M236P.) Lecture, three hours. Prerequisite: completion of one of the following methods courses, or permission of instructor. Current research. May be repeated for credit.

Mr. Weisner

215. The Medical Consequences of Nuclear War (1/2 course). Prerequisite: consent of instructor. The course reviews the biophysical consequences 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. Karne, Mr. Young

216. Neural Basis of Human Recent Memory. Lecture, two hours; discussion, one-half hour. Prerequisite: 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 neuropsychology of normal memory into a realistic model.

Mr. Halgren


Mr. DeMet

M219A-M219B. Basic Core Course in Mental Retardation Research (1/2 course each). (Same as Anthropology M237A-M237B.) Lecture, two hours; discussion, one-half hour. 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 findings of the discipline of mental retardation and the role it can 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 the use of alcohol, drugs, violence, behavioral disorders, cultural specificity, syndromes, non-Western psychiatry, and the questions of "sick" societies. May be repeated for credit.

Mr. Kennedy

223. MMPI Seminar (1/4 course). Prerequisite: consent of instructor. Topics include (1) basic scales, (2) the theory of the Minnesota Multiphasic Personality Inventory (MMPI), and psychopathology in general, based on two-factor conditioning and physiologic substrata, and (3) correction procedures and their transference and treatment indications.

Mr. Caldwell

225. Diagnostic Evaluation of Psychopathology (1/4 course). Prerequisite: consent of instructor. The course focuses on recent empirical and methodological developments in the field. Current technique includes review of literature presentations and discussion will center on the major syndromes of psychopathology in adolescence and adulthood, the distinguishing symptomatology, course and etiologic correlates, and methods for obtaining reliable judgments of a patient's psychiatric status.

Mr. Strober

226A-226B. Childhood Schizophrenia Research Seminar (1/2 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. The seminar will focus on the cultural aspects relevant to the psychological disorders of Asian Americans. The philosophical implications of Conclusus 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 (1/2 course). Prerequisite: consent of instructor. Course will highlight research 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 minority group psychology, the effects of psychodynamic factors from cultural treatments in the field of Spanish-speaking patients; treatment of Hispanic families, couples, undocumented persons, and criminal justice systems.

Mr. Loya, Mr. Morales, Ms. Telles (W)

232A-232B-232C. Human Sexual Dysfunction (1/2 course each). Prerequisite: consent of instructor. One-year training and research course in the direct behavioral treatment of human sexual dysfunction, combination of didactic material and supervised experience.

Mr. Golden (F,W,Sp)

M233. Alcoholism and Drug Abuse among Women. (Same as Public Health M235.) 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 (1/4 course each). Prerequisites: graduate standing and consent of instructor. General principles of the psychotherapy of affective disorders (depressive, 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 Interna Seminar (1/4 course each). Prerequisite: consent of instructor. Current topics in clinical psychology. The group will select topics for discussion pertaining to psychology, diagnostic evaluation, and modalities of treatment. S/U grading.

Ms. Holz

CM237. Theoretical Issues in Disorders of Language Development. (Same as Linguistics CM235.) Lecture, two hours; discussion, two hours. Prerequisite: Linguistics 1 or 31, 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. Needles

238. Language Development, Cognition, and Thought in Atypical Children (1/4 course). Lecture, one hour; discussion, one-half hour. Prerequisite: consent of instructor. Specific problems in language development will be discussed in particular regard to their implications for differential diagnosis. The relationship between language and cognition and the issue of thought disorder in children will be analyzed.

Ms. Needles

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 other disciplines. Techniques of behavior 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 (% 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 and social needs. 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. Wray (F.W.Sp)

241A-241B-241C. Observation of Group Psychotherapy (% 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 (% course each). Prerequisite: consent of instructor. In 242A-242B videotaped diagnosis and treatment sessions of children and their families will provide a framework for discussing such topics as diagnostic criteria, the beginning of treatment, the overwhelming 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 specific areas of 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 Course: Prerequisite: consent of instructor. A survey series on major topics of mental retardation, covering epidemiology, etiology, assessment, health care delivery systems, basic genetic concepts, direct care, and special needs. Presented in an interdisciplinary framework as generic information independent of discipline.

Mr. Tymchuk (F.W.Sp).

244. Computers in Mental Retardation Research. Prerequisites: consent of instructor. An introduction to the basic nature of computer systems, with emphasis on their impact on society. The course is directed toward providing the student with a broad general understanding of the roles and functions of computers. Specific examples are drawn from clinical, research, and administrative applications within the mental retardation and child psychiatry program.

Mr. Haggerty (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 "unteachable." The course has a practical orientation and involves two hours per week of supervised testing. S/U grading.

Ms. Freeman (W).

M246. Psychological Aspects of Mental Retardation. (Same as Psychology M246.) Prerequisite: consent of instructor. Discussion of the psychological aspects of mental retardation, including classification, description, etiology, theory, prevention, treatment, assessment, modern and future developments, and input from other disciplines (ethics, law, religion, welfare systems).

Mr. Tymchuk (W).

247A-247B-247C. Neuropsychological and Neuro-psychological Bases of Mental Retardation and Human Development (% course each). Prerequisites: graduate standing and consent of instructor. Involves discussion of advances in neuropsychology and neuropsychiatry, with particular reference to modern developmental studies. Faculty members or advanced students present results of research work in the context of available literature. Intensive discussion occurs during and after presentation.

Mr. Adinolfi, Mr. Levine

248. Research Rounds in Mental Retardation and Developmental Disabilities (% course). Prerequisite: consent of instructor. This seminar 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 (W).

M249. Language Disorders of Childhood (% course each). Prerequisite: consent of instructor. Course reviews language disorders in children, their relationship to normal maturational patterns and to other aspects of behavior, the critical period hypothesis, and selected research developments of environmental factors affecting language acquisition, neural mechanisms underlying speech and language, diagnostic methods, and approaches to remedial language training.

M250. Introduction to the Principles and Techniques of Mammalian Cell Culture (% course). Prerequisite: graduate or medical student standing and consent of instructor. Corequisite: course 251. The course provides a background in the physiology and pathology of mammalian cell culture. Current literature, lecture and selected readings in the classical field.

Mr. Haggerty (W).

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 (W).

252. Seminar: Child Development (% 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 (W).

M254. Counseling Families of Handicapped Children (% course). (Same as Social Welfare M254.) Prerequisite: consent of instructor. Techniques and issues in counseling families through evaluation, feedback, and treatment. Social and psychological stresses on family unit, professionals' reactions, community resources, and issues of genetic counseling, placement, and developmental crises.

Ms. Gottlieb (W).

256. Basic Clinical Child Psychopathology (% course). Prerequisite: consent of instructor. Seminar 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 (W).

257A-257B-257C. Diagnostics and Therapeutics of Language Disabilities (% course each). Prerequisite: consent of instructor. The course is directed toward the language specialist seeking training in the development of an electronic language and includes training in diagnostic techniques and therapy approaches. Linguistic disabilities are placed within the framework of total behavior. The clinical practicum involves individual case supervision, a review of pertinent literature, and a discussion of research topics. Students are required to complete a clinical research project in psycholinguistics and neurolinguistics.

Ms. Baitaxe (F.W.Sp).

255. Legal and Ethical Issues in Mental Retardation (% course). Prerequisite: consent of instructor. Discussion of current laws in mental retardation/developmental disabilities, philosophies, ethics, ethical codes, issues, how to resolve them, video-tape, discussion of cases.

Mr. Tymchuk (W).

M257. Seminar in Law, Medicine, and Human Values (% course). (Same as Law M353.) 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 (W).

M261. Law and Psychiatry (% 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 (W).

M262. Behavioral Management of Pain Problems (% course). Prerequisite: consent of student. Three 1-hour seminar sessions each quarter. Prerequisite 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 (W).

M268. Behavioral Management of Pain Problems (% course). Prerequisite: consent of instruction. Three 1-hour seminar sessions each quarter. Prerequisite 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 (W).

M271. 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 approaches. Classical and instrumental conditioning procedures will be discussed, with particular attention to the motivational variables.

Mr. Soltysik (W).

M272. Psychological Anthropology. (Same as Anthropology M272.) Prerequisite: consent of instructor. The course will deal with various psychological issues in anthropology, both theoretical and methodological. Areas of interest include cultural values and culture and theory, culture personality, and culture psychiatry. The course will deal with questions relating to symbolic and unconscious processes as they are related to culture. Topics vary from quarter to quarter. May be repeated for credit if material is taken from different areas.

Mr. Edgerton (W).

273. Growth Control, Transformation, and Malignancy in Mammalian Cells in Culture (% course). Evaluation of currently available cultured mammalian cell types as experimental models to study growth control in normal, neoplastic cells in vivo and to analyze the cytosocial, biochemical, and cytophysiological differences between normal and transformed and/or malignant cells in culture.

Mr. Haggerty (W).
274. Neurophysiology and Behavior (% 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 (% course each). Prerequisite: consent of instructor. The course is designed to review sociobiological 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 as a biological phenomenon rather than a psychological perspective.

In Progress grading.

Mr. McGuire

277. From Research to Practice: Biobehavioral Contributions (% 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. Seralezides

278. Clinical Psychopharmacology Research. Prerequisite: consent of instructor. Directed research experience at the graduate level. Research skills will be taught as they apply to the practical setting of one or more psychology research projects. Discussion of ongoing psychopharmacology research projects and of proposed new projects focusing on practical problems of 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 be used? Each quarter will cover one level of analysis: describing and recording behavior; causation; development; especially longitudinal studies; adaptation; human variation.

Mr. Blurton Jones (F,W,Sp)

M280. Alcohol and Drug Abuse: Social Policy Perspectives (% course). (Same as Public Health M292.) Prerequisite: consent of instructor. Alternative models of alcohol and drug other addiction 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 (% 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 (% 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 test 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 (% course). Prerequisite: consent of instructor. The aim of the course is to present the biological and neurophysiological theories of the etiology of childhood psychoses.

285A-285B-285C. Intermediate Family Therapy (% course each). Seminar, two hours. Prerequisite: consent of instructor. Theories and techniques of family therapy. History, foundations, and indications and contraindications of psychoanalytic therapy and family therapy. Observations and demonstrations are included. Students are encouraged to bring videotapes of their family therapy cases for discussion.

Ms. Goldenberg (F,Sp)

286. Behavioral Analysis of Autism (% course). (Formerly numbered 456.) 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. Freeman

287. Psychopharmacology Seminar (% 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 maintenance and extinction of habits. Basic mechanisms are stressed. Pharmacological procedures used in habit development and control, particularly coping methodology, are discussed.

Mr. Virkul

290. Quantitative Analysis of Ethnographic Data. Prerequisite: graduate standing. The course will provide didactic and experiential training in quantitative and ethnographic data analysis, 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


298. Current Topics in the Biobehavioral Sciences (% to 1 course). Prerequisite: consent of instructor. Current topics 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 (% course). Prerequisite: consent of instructor. Discussion of basic and applied research issues related to childhood psychosis by members of the seminar. Readings will be suggested for each topic.

Mr. Franke1

403. Individual Case Supervision (% to 1 course). Prerequisite: consent of instructor and department chair (based on a written proposal to be structured by the student and approved by the instructor). Specific topics for each case are discussed with regard to management issues, psychological procedures used in habit development and control, and the need to program specific treatment.

Mr. Nihira

413. Community Meeting: 2-West (% 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 period of didactic session follows.

Mr. Baxter

414. Ward Milieu Meeting (1/4 course). Prerequisites: consent of instructor. Milieu course meetings are devoted to the treatment of personality disorders, the assessment, treatment, and understanding of problems of psychopharmacology.

Section 1: 2-West Mr. Baxter

Section 2: 2-South Mr. Diamond, Mr. Strober

Section 3: A-South Mr. Diamond, Mr. Strober

Section 4: A-West Mr. Baxter

424. Child Preadmission, Admission, and Disposition Conference (% course). Prerequisite: consent of instructor. Seminar for graduate students interested in the care of children and families. 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 Mr. Baxter

Section 3: 2-West Mr. Baxter

Section 4: 2-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 treatment management issues, psychiatric approaches, therapy issues, methods of psychodiagnosis, patient transfer, and relevant literature. In addition, participants will be grandchildren of individual supervision on a weekly basis.

Mr. Wellisch

447. Child and Adolescent Outpatient Team (% course). Prerequisites: consent of instructor. Weekly team meetings will 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 5: 6th-Year UAF Trainees. Mr. Mynck

445. Family Therapy Seminar for Clinicians (% course). Prerequisites: prior clinical responsibility and treatment experience with individuals and 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 school, the organization of the school systems, the professional role of the school (e.g., teachers, counselors, etc.), and their special problems. S/U 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 its current problems. Seminars and faculty discussions are presented. The presenting trainees are expected to cover the pertinent literature and 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 care of the patients seen may attend. Emphasis is on 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 clinic teaching session on the patients seen in the genetics clinic. An in-depth discussion on the genetics of each disorder follows.

Ms. Crandall and the Staff

480. Analysis of Human Chromosomes Studies (1/4 course). Prerequisite: consent of instructor. Chromosomes and 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 studies.

Mr. Spakes

481. Chromatography Review. Prerequisites: premedical course or biochemistry and consent of instructor. A weekly seminar 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 (1/4 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.

586P. Individual Studies in Psychiatry (1/2 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 NIPI. 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. Smithers, Ph.D. (Radiation Oncology)
Milo M. Webber, M.D.
Gabriel H. Wilson, M.D., Chair
Roderic W. White, 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 Moier, Adjunct
Christine W. 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 engaged 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, 209A-209B, 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 (1/2 to 1 course). Prerequisite: consent of instructor. 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 and pin scintillation detectors, liquid scintillation counters, scintillation cameras, and dosimetry of internally administered radioisotopes. Mr. Graham

202A-202C. Applications of Medical Physics to Clinical Problems

Selected studies in the clinical use of radiotopes. Prerequisite: course 200B or consent of instructor.

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.


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, scintillation detectors, and design of X-ray protection. Laboratory experiments will illustrate the basic theory. Mr. Huang

206. Advanced Instrumentation: NMR, CT, and DR. Prerequisites: courses 200A, 205, 596, digital techniques in radiological sciences. An introduction to the recent advances in digital diagnostic imaging systems, 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 requirements 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 MTF, 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 Biomedical Mathematics 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. Mr. Barrio

481. Angiographic Techniques (½ 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 596 and 598 combined) may be applied toward the M.S. degree requirements. May be repeated. S/U grading.

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

Professors
Charles E. Lewis, M.D., Sc.D.
Sharon J. Reeder, R.N., Ph.D.
Mary E. Rees, M.P.N., Ed.D., Dean
Maria W. Sarayungan, R.N., Ph.D.
Donna L. Vredevoe, Ph.D.
Lulu Wolf Hassenplug, R.N., M.P.H., Emeritus
Dorothy E. Johnson, R.N., M.P.H., Emeritus
Hamet C. Moel, R.N., Emeritus
Donna L. Vredevoe, Ph.D.
Emeritus
Dorothy E. Johnson, R.N., M.P.H., Emeritus
Arleen B. Canfield
Gwen Van Servellen, R.N., Ph.D.
Maryalice Jordan, R.N., D.N.Sc.

Associate Professors
Pamela J. Brink, R.N., Ph.D.
Betty L. Chang, D.N.Sc.
Jacquelyn H. Flakerud, R.N., Ph.D.
Phyllis A. Putnam, R.N., Ph.D., Assistant Dean
Gwen Van Servellen, R.N., Ph.D.
Donna Ver Steeg, R.N., Ph.D.

Assistant Professors
Arleen B. Canfield, R.N., Ed.D., Assistant Dean for Student Affairs
Barbara H. Davis, R.N., Ed.D.
Kathleen A. Drapac, R.N., Ph.D.
Maryalice Jordan, Ph.D., Assistant Dean for Continuing Education
Susan M. Ludington, R.N., Ph.D.
Elizabeth Fast, R.N., Ph.D.
Juliet Tion, R.N., D.N.Sc.
Margaret Topf, R.N., Ph.D.

Professor
Donna Aguilera, Ph.D., Visiting Assistant

Assistant Professors
Cecily L. Betz, R.N., Ph.D., Visiting
Eleanor L. Brazil, R.N., M.Ed., Clinical
Christiane Breu, M.N., Clinical
Mary Callaghan, M.S.N., Clinical
Mary M. Canobbio, M.N., Clinical
Anayis K. Dardarian, M.N., Clinical
Marlony I. Eis, M.N., Clinical
JoEllen Murata, R.N., Ph.D., Clinical
Debra Mash, M.S.N., Clinical
Agnes F. Pardernett, R.N., M.Ed., Clinical
Linda P. Sarna, M.N., Clinical

Lecturers
Genevieve A. Bahu, M.N., Visiting
Mary Cadogan, M.N., Visiting
William Crawford, Ed.D., Visiting
Felictas de la Cruz, M.A., Visiting
Teri Forshee, M.S.N., Visiting
Joy Dan Graves, Ph.D., Visiting
Mary J. Hoban, M.N., Visiting
Ryu Kamiyama, M.N., Visiting
Celine Marsden, M.N., Visiting
Lyne Morishita, M.S.N., Visiting
Cynthia C. Scalzi, M.N., Visiting
Esther F. Seeley, M.N., Adjunct
Evelynn G. Sobol, R.N., Ph.D., Visiting
Irene Stuart, M.N., Visiting
Inese Verzemnieks, M.S., Visiting

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.

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 "Pre-nursing 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 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 M235G).


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 cardiopulmonary 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 clinical specialists in general medical-surgical nursing. Students are encouraged to develop their own clinical focus in areas of acute chronic illness (e.g., critical care, trauma nursing, diabetes, neurological nursing). 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 inter/disciplinary 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 intrapersonal 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

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 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 content related to the nursing care of the patient undergoing medical interventions. Ms. Konkia, 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 surgical intervention. Ms. Bahu

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 mental health concepts to nursing care in public health agencies. Ms. Davis, Ms. Sobol

M156. 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, attitudes and beliefs of the systems. 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 reports. 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, psychological, 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, twenty 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 and conducting research. Basic research designs, measurement of variables, data analysis, principles of human rights, requirements of research reports, and writing research proposals. 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.

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. Ms. Davis, Ms. Sobol

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. Seraydarian

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 is stressed 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 on current research on respiratory physiology. 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 on cardiovascular physiology. 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 conditions that are potentially disruptive to the family during childbearing years. Selected problems and the interaction of family variables reflecting 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

217. Medical Anthropology. (Same as Anthropology M263.) Lecture, three hours. Prerequisite: course M156 or consent of instructor. Any of the topics covered in course M156 will be selected each quarter for an 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 concurrent clinical 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. 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 influencing factors. Sociocultural and selected health care issues will be debated by students using 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 multicultural environment 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 intra- and transcultural nursing care. Emphasis is on the development of multicultural 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 and cultural competence courses, and consent of instructor. Corequisite: course 403. Discussion of the concepts of culture, language, lifestyle, and health practices which influence the practice of primary care among Asian/Pacific, Black, Hispanic/Latino, and Native American people. Ms. Tien
Clinical Practice

401. Nursing Assessment and Intervention. Lecture, two hours; laboratory, four to eight hours. Prerequisite or corequisite: course 203. Instruction and experience in the systematic assessment of patients for the identification of nursing problems. Discussion and evaluation of major modes of intervention practice.

Ms. Ver Steeg

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 methods. Pathophysiology and pathophysiology are integrated in a systems approach.

Ms. Derlatent

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 group therapy and develop the ability to evaluate the effectiveness of group therapy.

Ms. dela Cruz, Ms. Stuart, and the Staff

405. Assessment in Respiratory and Cardiovascular Nursing (1/2 course). Lecture, one hour; discussion, one to two hours; laboratory, ten hours minimum. Prerequisites: course 410B and/or consent of instructor. Exploration and participation in the assessment, planning, and delivery of healthcare 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 (1/2 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 (1/2 to 1/2 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. Prerequisites: course 210 and consent of instructor. Basic knowledge from biological, behavioral, and medical sciences for understanding the development, diagnosis, treatment, and prognosis of cancer. Nursing care management and intervention in diagnostic and treatment modalities is stressed.

Ms. Callaghan, Ms. Hohan, 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 an understanding of the theoretical and technical skills necessary for the interventions of these problems.

Ms. Callaghan, Ms. Hohan, 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. Emphasis is on the development of 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-four hours minimum. Prerequisite: course 241A. 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-four hours minimum. Prerequisite: course 241B. This course is designed to prepare the student for the final level of specialization in the specialty of children’s nursing care, 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 one theory course for the role of the instructor. Emphasis is on developing skills in the utilization of the assessment, intervention, and evaluation phases of the nursing process. The assessment phase as it relates to the obstetric population 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. Perspectives are utilized to deliver care and evaluation 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, forty to fifty 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, interventional, 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 further refined.

Ms. Reeder and the Staff

423A. Clinical Medical-Surgical Nursing (1/2 to 1/2 courses). Lecture, one hour; discussion, two hours; laboratory, ten hours minimum. Prerequisite: 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, desired for 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 of physiologic 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 (1/2 to 1/2 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 the selection, utilization, and evaluation of interventions for nursing problems of medical-surgical patients. Students select a specific patient population for this course in the cognate area. Prerequisites: (1) one theory course; (2) oncology, (3) cardiovascular, (4) respiratory, (5) general medical-surgical.

Ms. Dracup and the Staff

423C. Clinical Specialization in Medical-Surgical Nursing (1 courses). Lecture, one hour; discussion, two hours; laboratory, forty to fifty hours maximum. Prerequisite: course 243C; for non-medical-surgical specialization students: consent of instructor (may enroll for two units). Required for the medical-surgical specialization area. 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, specialist, and staff development. Content is based upon normative developmental material and clinical experience. Ms. Canobbio, Ms. Eisz, and the Staff

SCHOOL OF NURSING / 439
424A. Clinical Psychiatric Nursing. Discussion, three hours; laboratory, eight to ten hours. Prerequisites: courses 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 Sverellien 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 Sverellien 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 is on an integrated understanding of multiple variables 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 420A-420B, 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 to thirty hours. 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.

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. This 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. 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. Flakserud

442. Liaison Nursing. Lecture, three hours; laboratory, ten hours. Prerequisites: courses 403, 440A. Behavior of groups of individuals is studied from an interorganizational 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 problems.

Ms. Davis

Functional Preparation

375. Teaching Apprentice Practicum (1 to 2 courses). 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 practica, one course in group dynamics and process, or equivalent. The student and study 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 independent 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 Administration. 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. Marsten, Ms. Salizi

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.
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 health of the community.

Students may prepare for careers in basic specialties such as epidemiology, biostatistics, 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. Affl, Ph.D. (Biostatistics)
Roslyn B. Aliin-Slater, Ph.D. (Nutrition)
Lawrence R. Aah, 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 Cusmer, M.D., M.P.H. (Population and Family Health)
Roger Detels, M.D., M.S. (Epidemiology), Dean
Williford J. Dixon, Ph.D. (Biostatistics)
Oliver Jean Dunn, Ph.D. (Biostatistics)
John Edmond, Ph.D., Ph.D. (Population and Family Health)
Olive Jean Dunn, Wilfrid J. Dixon, Ph.D. (Biostatistics)
John Edmond, Ph.D., Ph.D. (Population and Family Health)
B. Jelliffe, Derrick
Donald Guthrie, Ph.D., Robert M. Elashoff, Ph.D. (Biostatistics)
Charles E. Lewis, M.D., Sc.D. (Infectious and Tropical Diseases)
Edward B. Johns, Ed.D., Emeritus
Emeritus
Frank F. Tallman, M.D., Emeritus

Associate Professors
Emil Berkovin, 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)
Chims A. Davos, Ph.D. (Environmental and Occupational Health Sciences)
Ralph R. Frenich, 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. Coyle, Ph.D. (Health Services)
Curtis D. Eckert, Ph.D. (Nutrition)
Sander Greenland, Dr.P.H. (Epidemiology)
Robert W. Haile, Dr. P. H. (Health Services)
Philip I. Harber, M.D., M.P.H. (Epidemiology)
Michael R. Jones, Ph.D. (Nutrition)
Diane Moore, Ph.D., M.S.N. (Population and Family Health)
Donald E. Morisky, Ph.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, M.D., Dr.P.H. (Health Education)

Lecturers
Jean L. Mickey, Ph.D. (Biostatistics)
Florence C. McCucken, 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. Roemighe, 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. (Environmental and Occupational Health Sciences)
Raymond D. Goodman, M.D., M.P.H., Adjunct
Richard H. Greenberg, Ph.D. (Environmental and Occupational Health Sciences)
Juel Jans, Ph.D., Adjunct
Jacqueline B. Kosecoff, Ph.D., Adjunct (Health Services)
Tommaso K. M., M.D., M.P.H., Adjunct (Epidemiology)
Louie E. Mahoney, J.D., 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 Eshoff, 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
(Emeritus and Occupational Health Sciences)

Lecturers
Omar Affl, M.D., Visiting
Nancy H. Allen, M.P.H., Visiting
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
Carol 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 Halley, 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 Jellif, M.N., M.P.H., Adjunct
Oliver G. Johnson, B.A., Visiting
Stephanie W. Kahana, D.Env., Visiting (Environmental and Occupational Health Sciences)

PhD. (Environmental and Occupational Health Sciences)
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, 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) and 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 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, 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.


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. 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


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 limits, 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 analoguous 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 100B 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 and their transmission and control of etiologic agents. Mr. Schacher

114. Epidemiology I. Lecture, two hours; laboratory, four hours. Prerequisites: courses 100A and 111, 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 course one of the course requirements. Ms. Bourge

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 (1/2 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.
135. Organization of Medical Practice (3/4 courses). (Same as Medicine M135.) 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 health care evaluations. Mr. Goodman

136A. Introduction to Health Services Research. Prerequisites or corequisites: courses 100A and 110 or equivalent, and course 143, or equivalent, in the field of health services research. Use 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

138B. 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.

Mr. Fink, Ms. Kosec

136C. Social Experimentation as a Research Tool for Health Care Policy. Prerequisites: courses 136A, 138B, or equivalent, and consent of instructor. Economic and psychometric issues underlying social experimentation in health care policy. Risk, the measurement 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, 120, and consent of instructor. Decision theory and use of statistics in decision making. Decision theory includes frameworks for decision making and control, decision under different conditions, levels of variables, and value of information. Statistical topics include communicating with statistics, measures of association, regression, analysis of variance, and forecasting.

Mr. Conlin

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 discharge, and 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 1A, Biology 5, Mathematics 3A, Physics 3A or 6A. Broad coverage of environmental health, including airborne and waterborne pollutants; pollutants from urban industries 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. Prerequisite: 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. An introduction to the principles of instillation 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. Prerequisite: Economics 100, Political Science 142 or 143, or equivalent, and consent of instructor. Introduction to foundational principles and concepts of environmental management, decision and evaluation of environmental policies and programs. Mr. Davos

155. Introduction to Environmental Health (3/4 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. This course addresses scientific, legal, political, and historical issues in occupational health and introduces students to various occupational disciplines (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 (3/4 course). Prerequisites: one college course in biology or equivalent, and consent of instructor. Basic 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. Mr. Alfi

161. Nutrition and Health (3/4 course). Prerequisites: one college course in biology 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. Mr. Alfi

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. Mr. 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; physiologic processes. Mr. Alfi-Slater

165. Clinical Nutrition Laboratory (1/2 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. Eckhart

166A. Therapeutic Nutrition (1/2 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. Mr. Carlisle

166B. Therapeutic Nutrition (1/2 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. Mr. Carlisle

167. Biologic Processes: Physiology and Nutrition. Lecture, three hours. Prerequisites: course 163 and one of the following: introduction to lipids, carbohydrates, proteins; and hormones and enzymes in metabolism; physiologic processes occurring in various organs. Mr. Alfi-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 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: courses 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, development, and social development from infancy to old age. Mr. Jelliffe

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. Mr. Alfi-Slater

172. Introduction to Reproductive Health. Lecture, two hours; discussion, two hours. Prerequisites: consent of instructor or equivalent course 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. Mr. Moore

174E. Health, Disease, and Health Services in Latin America. Prerequisites: one upper division course in Latin American studies or course 110. Introduction to health issues in Latin America, with emphasis on epidemiology, health administration, medical anthropology, and nutrition. Mr. Sernshaw

174H. Public Health in the People's Republic of China (1/2 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 biological 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 disease. Psychological, cultural, political, and health care aspects are included. Ms. Moore

178. Principles of Genetic Counseling (1/2 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 (1/2 course). Prerequisite: course 177A. Counseling principles and techniques arising from such reproductive areas as prenatal care, 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 (1/2 course). Prerequisite: 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 (1/2 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 (1/2 course). Lecture, one hour; discussion, one hour. Prerequisites: 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. Principles for potential health practitioners. Ms. Katz

179B. African Health Sector Analysis Seminar (1/2 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. Mr. Rada


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 executing health research using a variety of methods. Includes discussions of students' own research plans. Ms. Katz

182. Behavioral Sciences and Health. Lecture, three hours. Prerequisite: one course in social science, oral presentation, and consent of instructor. 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 national, voluntary, and official health agencies and analysis of their interrelationships. Mr. Berkovanic, 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 models of food; implications of foods, population, and economic progress. Mr. Rada

187. Health Education for Teacher Credentials (1/2 course). Limited to students in the teacher education credential program. California 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. Mr. Rada

188. Community Mental Health. Prerequisites: one upper division course in psychology, sociology, or anthropological 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. Mr. Rada

189. Community Cancer Education. Lecture, two hours; discussion, one hour. Prerequisites: consent of instructor. Cancer education as a component of health education. Mr. Rada

190. 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 national, voluntary, and official health agencies and analysis of their interrelationships. Mr. Berkovanic, Mr. Brown

201F. Special Topics: Distribution Free Methods. Lecture, three hours; discussion, one hour. Prerequisites: course 200C or 100C and Mathematics 150C or 152B, or consent of instructor. Theory and application of distribution free methods in biostatistics. Mr. Rada

201G. Special Topics: Statistical Simulation Techniques. Lecture, three hours; discussion, one hour. Prerequisites: courses 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. Prerequisites: course 100D or Mathematics 150C or 152B. Theory and methods for sampling finite populations and estimation of population parameters. Mr. Rada

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.

202K1. Survival Analysis. (Same as Biostatistics M202K.) Lecture, two hours; discussion, one hour; laboratory, two hours. Prerequisites: course 202A or 202B. Applied statistical methods. Emphasis on decisions, models, and identification of important tools and methods. 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 computer analysis; emphasis on computer programs for data base management and statistical packages. Mr. Dixon

203B. Systems Analysis for Health Data. Lecture, three hours; laboratory, two hours. Prerequisites: courses 203A or 203B. Design of data base and data base models applied to medical and public health studies; design of data bases for efficient computer analysis; emphasis on computer programs for data base management and statistical packages.

204E. Seminar in Biostatistics (1/2 course). Prerequisites: course 200B, two courses from the M201E-201J series, and consent of instructor. Students present and discuss research papers in biostatistics. Mr. Korn (W)
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. 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, or 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, data analysis, 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. Emphasis on selection of appropriate research design, problems of measurement, and analytic techniques commonly used in epidemiologic studies.

211C. Advanced Epidemiologic Analysis. Formerly numbered 296.) 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.

212E. Epidemiology of Cardiovascular Disease (1/2 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 Neurolologic Disease (1/2 course). Prerequisites: course 211B or equivalent and consent of instructor. Epidemiologic characteristics of selected chronic neurolologic diseases, with particular emphasis on etiology and possible control.

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 (1/2 course). Lecture, one hour; discussion, one hour. Prerequisites: courses 100A, 110 or 111, 112 or 14, 152, or equivalent, and consent of instructor. Epidemiologic aspects of unintentional 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 211, 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, one hour. 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


215B. Epidemiology of Cancer (1/2 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; laboratory, three hours. Prerequisites: courses 100A and 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 disease; populations, 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 evaluation, and causation of these infections. Mr. Ash

218A. Protozoal Diseases of Man (1/2 course). Prerequisite or corequisite: course 218A. Laboratory methods of diagnosis and microscopic recognition of protozoal parasites 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. Hemorrhagic Diseases of Man. Prerequisites: Microbiology 101 or Biology 105 and equivalent and consent of instructor. Comprehensive overview of systemsatics, morphology, biology, host-parasite relations, 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. Hemorrhagic Diseases of Man (1/2 course). Prerequisite or corequisite: course 220A. Laboratory disease and epidemiology of several species 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 (1/2 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 (1/2 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 (1/2 course). Prerequisites: courses 100A 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; laboratory, three hours. Prerequisites: courses 100A, 112, 121A, 211A, 211B, 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


226. Genetic Epidemiology (1/2 course). Prerequisites: courses 100A, 112, 211A. Descriptive and analytical epidemiologic studies and administrative considerations in epidemiologic cancer research. Hypothesis specification and choice of study design. Uses of descriptive epidemiology, cohort studies, case control studies, cluster and screening, and cancer control. Means of identifying subjects and controls. Design of instruments. Sources of bias and confounding. Mr. Mack

Mr. Ash

Ms. Bourque, Ms. Coulson

Mr. Greenland

Mr. Greenhalgh

Mr. Haile

Ms. Visscher
243. Environmental Microbiology. Lecture, three hours. Prerequisites: courses 150, 153, or equivalent, and consent of instructor. Basic concepts of eutrophication, indicator organisms, aquatic microbes; assessment of biological treatment practices in water reuse and pollution reduction. Mr. Mah

253A. Environmental Toxicology. Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 152 or 405, or equivalent. Essentials of toxicology, dose response, chemical absorption, and effects of toxins on organisms and environments. Mr. Froning, 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 156, 157, 158, 118, or equivalent, and consent of instructor. Techniques and models of systems analysis and concepts of general system theory as applied to environmental planning, policy, and management in environmental decision systems. Mr. Davis

255. Seminar in Environmental Health Sciences. (1/2 course). Prerequisites: courses 150, 156, and consent of instructor. A presentation in seminar for current research in epidemiology. May be repeated for credit. S/U grading.

256. Seminar in Health Effects of Environmental Contaminants (1/2 course). Prerequisites: Biological Chemistry 101A-101B or equivalent and consent of instructor. Emphasis on health effects of air, water, and occupational exposure. 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 or equivalent and consent of instructor. Comprehensive treatment of vitamin nutrition and metabolic-nutrient interactions. Ms. Swendsen

260F. Advanced Nutrition: Proteins. Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B or equivalent and consent of instructor. Comprehensive treatment of protein nutrition and metabolic-nutrient interactions. Ms. Swendsen

260G. Advanced Nutrition: Lipids. Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B or equivalent and consent of instructor. Comprehensive treatment of lipid nutrition and metabolic-nutrient interactions. Ms. Carlisle

261A. Laboratory Instrumentation and Methods. Lecture, two hours; laboratory, six hours. Prerequisites: courses 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, radiolabels, and centrifugation. Mr. Jones, Mr. Panag

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. Eckert

262. Seminar in Nutrition (1/2 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 (1/2 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. Studies and obesity-related interactions in various disease states such as gastrointestinal disorders, renal disease, and liver disease. Ms. Alfin-Slater, Mr. Kopple, Ms. Swendsen

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 other metabolic disorders. Ms. Alfin-Slater, Mr. Kopple, Ms. Swendsen

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 services. 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, 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

272F. 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 M294.) 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. Recent qualitative 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 Socioeconomic 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. Blake

M276. Culture and Human Reproduction. (Formerly numbered 476.) (Same as Anthropology M262F.) 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 112, 153, 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. Afifi

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 105 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. Scrimshaw

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.

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 sociocultural-environmental factors associated with general susceptibility to disease and subsequent mortality. Ms. Siegel

283F. Sociocultural Aspects of Health and Illness: Health Professions. (Same as Sociology M249A.) Lecture, three hours. Prerequisites: course 182, three courses in psychology, biology, sociology, or anthropology, or equivalent, and consent of instructor. Sociocultural 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 health-related behavior. Mr. Berkmanovic

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 sociocultural-environmental 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 of policy and planning. Mr. Goldstein

286. Seminar in Behavioral Sciences and Health (¼ 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 an emphasis on 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, and consent of instructor. Two courses in sociology or anthropology, or equivalent, and consent of instructor. Theory and practice of community organization applied to health problems. Emphasis on 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 182, 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 evaluative research in the context of local demonstration projects. Mr. Berkmanovic

290. Seminar in Community Health Education (¼ course). Prerequisites: courses 288 and 481. In-depth analysis of health 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.

292. Alcohol and Drug Abuse: Social Policy Perspectives (¼ course). (Same as Psychiatry M280.) Prerequisite: consent of instructor. Alternative models of alcohol and other drug addiction 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

293. 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 intervention, treatment, and societal, economic, and political factors. 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 on programs and education of labor unions. Career planning in occupational health. Mr. Vojticky

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 as integrated with health education research, practice, and evaluation. Mr. Morsky

375. Teaching Apprentice Practicum (1/2 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 (1/2 or 1 course). Prerequisite: consent of instructor. Field observation and participation 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 included in the minimum unit 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 (1/2 course). Prerequisites: courses 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 (1/2 course). Prerequisites: courses 100C or 100D or Mathematics 152B or equivalent, and 112, and consent of instructor. Design and analysis of longitudinal or panel studies. S/U grading (nondivision majors only).

402A. Principles of Biostatistical Consulting (1/2 course). Lecture, one hour; discussion, one hour. Prerequisites: courses 100B or 101B and Mathematics 150B or 152B. Presentation of structural format for statistical consulting to health sciences client. Reviews of actual statistician-client interactions and case studies.

402B. Biostatistical Consulting. Discussion, two hours; laboratory, two hours. Prerequisites: courses 100A or 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; discussion, 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 for manipulating 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 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 103 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 medical and health research. Use of computer programs for data analysis. S/U grading (nondivision majors only).

410A. Management of Epidemiologic Data (1/2 course). Prerequisites: courses 100A, 112 (one course may be taken concurrently by consent of instructor). Concepts, collection, and manipulation of data, with particular emphasis on large-scale data bases. Introduction to computers and appropriate selection and use of packaged programs.

410B. Management of Epidemiologic Data (1/2 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.

411. Research Resources in Epidemiology (1/2 course). Lecture, one hour; discussion, one hour. Prerequisites: courses 100B, 211B, and consent of instructor. Principles of research design and experimentation; use of varied bibliographic aids and sources of information, building of reference files, and presentation of research findings for publication.

412. Administration of Preventive and Medical Clinics (1/2 course). Lecture, one hour; discussion, one hour; field trips. Prerequisites: courses 112, 130, or equivalent, and consent of instructor. Delivery of preventive and primary health services in the clinical setting. Epidemiologic, administrative, and financial aspects of communicable disease, substance abuse, mental health, prenatal care, family planning, cardiovascular disease, symptomatic screening, venereal disease, and degenerative diseases.

413. Preventive Medicine in Public Health Practice. Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 110, 112, 130, or equivalent, 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 mechanisms, and patient motivation. Mr. Hanson, Mr. Spivey

430. Management of Medical Care Organizations and Programs. Prerequisites: course 131 and consent of instructor. Application of organizational, economic, and behavioral sciences to understanding structure and functions of health care facilities and programs.

431. Managerial Processes in Health Service Organizations. Lecture, one hour; laboratory, three hours. Prerequisites: course 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.

432. Integrative Seminar in Health Services Management. Lecture two hours; laboratory, two hours. Prerequisites: course 139 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 methods. Mr. Schon

437. The Legal Environment of Health Services Management (1/2 course). Prerequisites: course 131 or equivalent and consent of instructor. General survey of various aspects of management and control of health services including government, agency, informed consent, medical malpractice, contracts, negligence, and case law relating to health facility operations. Mr. Liset

438. Issues and Problems of Local Health Administration. Prerequisites: courses 130, 131, 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 (1/2 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 methods. Mr. Schon

440A. Health Information Systems: Organization and Management. Lecture, two hours; laboratory, three hours. Prerequisites: courses 140A-140B or equivalent and consent of instructor. Principles 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 139 or equivalent, and consent of instructor. Principles of and systems relating to organization and management of a health facility's health information system.

441A-441B. Health Record Systems (1/2 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 administration of hospital record, process, and retrieve data for records and reports in health and medical institutions and agencies.

442. Principles and Practices of Medical Care Audit. (1/2 course). Prerequisites: courses 100A, 112, 130, or equivalent, and consent of instructor. Audit of systems used in evaluating health care professional providers' performances in hospital and ambulatory settings. Health information systems and data availability and use for medical audit. Mr. Goodwine

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. Analysis of hospital financial management, including reimbursement management, capital financing, and capital investment analysis, is discussed and analyzed with respect to students' individual projects. Ms. Corre

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. Previously presented information systems concepts. Mr. Corre

445B. Applied Methodology in Health Planning. Lecture, three hours; fieldwork, four hours. Prerequisites: courses 130 or equivalent, 444A, and consent of instructor. Development of methodology of health planning by involving students in formulation of actual health plan for existing agency in Los Angeles area. Mr. Michels

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 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. Wiesman

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 care use; expenditures, financing, and role of the health insurance, and international comparisons of health financing. Mr. Schweitzer

447D. Management of Health Maintenance Organizations. Lecture, three hours. Prerequisites: courses 130, 134, 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. Wiesman

447E. Health Insurance Principles and Programs. Prerequisites: courses 130, 232, one additional health services course, or equivalent, and consent of instructor. Examination of social, actuarial, and commercial aspects of designing and operating private health insurance. Comparison with government-sponsored health insurance. Analysis of diversity of voluntary medical care insurance plans under different sponsorship and with various incentives and benefits and their implications for public and private medical care developments. Mr. Shnook

447F. Health of Americans: Trends and Issues. Prerequisites: courses 100A, 110, 112, 130, or equivalent, graduation 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

448. Evaluation of Health Services and Programs. Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: completion of social science 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 cost-effectiveness analysis. Emphasis on measurement of outcomes of health service systems. Mr. Hopkins

449E. Introduction to Health Care (½ course). (Same as Dentistry M444E.) 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 quality 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 152, 250, 450, 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 policies. Critical analysis of normative and behavioral models of action choices for protection and enhancement of environmental health, and development of an alternative model. Mr. Jones

457. Environmental Hygiene Practices (½ course). Prerequisites: courses 112, 150, 154, and 450. Field principles and practices of environmental sanitation as applicable to the sanitary. Topics include theory, code enforcement, and inspection procedures for applicable environmental topics in areas: examination of human population groups.


462. Nutritional Assessment Laboratories (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 and population groups. Techniques for measuring vitamins, minerals, lipids, and proteins.

463. Practicum in Public Health Nutrition. Discussion, two hours; field research, twelve hours. Prerequisite: courses 400, 480, 461, and consent of instructor. Analysis of public health nutrition problems. Delivery and evaluation of community nutrition education.

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, various missions, international health policies, and health and international organizations. Mr. Neumann

470B. Advanced Issues in International Health. Lecture, two hours; discussion, two hours. Prerequisites: courses 110 or 112, 270, or equivalent, and consent of instructor. In-depth focus on major health 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 political issues 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 470A, or equivalent, and consent of instructor. Major health problems and responses of mothers and children in developing areas stressing causation, management, and prevention. Particular reference to adapting programs to limited resources in cross-cultural milieus.

472B. Recent Developments in Maternal and Child Health in Disadvantaged Countries (½ course). Mr. Jelliffe

472D. Overseas Refugee Health Programs (½ course). Lecture, one hour; discussion, one hour. Prerequisites: courses 100A, 112, 270 or 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

472E. 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 major handicap conditions in children. Emphasis is on biological and social factors, current research, and program developments.

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, 120, 130, or equivalent, and consent of instructor. Examination of the health problems affecting children in the United States and exploration of alternatives of priorities, approaches, services, and policies aimed at ameliorating these problems.

473E. Adolescent Health: Major Issues and Problems (1/2 course). Ms. Hunt, Ms. Murphy

473F. Research Seminar in Community Child Health. Lecture, one hour. Mr. Jelliffe and Mr. Chang

473G. Advanced Issues in International Health. Laboratory, one hour. Mr. Jelliffe and 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 for affecting 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 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 planning for need identification; goal setting; budget and work plan development; funding; staffing; evaluation design; data and cost analysis; and project presentation. Mr. Neumann

475D. Analysis of Family Health and Fertility Data. Lecture, three hours; laboratory, two hours; assignment, twelve weeks. Prerequisites: courses 100B, 125 or 161, 217, or equivalent, and consent of instructor. Analysis and interpretation of large-scale data sets, case studies, and statistical data from 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. Mr. Kar

476. 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

477. Anthropometric Nutritional Assessment (1/2 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. Mr. Jelliffe

478E. Cytogenetics Practicum (1/4 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. Ali

479. Nutrition Programs and Policies for Families in the Third World. Lecture, two hours; discussion, two hours. Prerequisite: 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 in Third World Considerations (1/2 course). Lecture, one hour; student participation, one hour. Prerequisite: course 472A or equivalent and consent of instructor. Problems and program educational 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 setting. 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, or equivalent, and consent of instructor. Study of community and group/felt needs as reflected in behavior. Analysis of data for understanding, planning, implementing, and evaluating a community-directed health education and medical care program. Ms. Richards

483. Social Interventions for Health Promotion and Evaluation. Lecture, two hours; discussion, 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 context 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. Berkovic

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. Ms. Rada

486. Death, Suicide, and Homicide: A Public Health Perspective. Lecture, three hours; field trips, outside readings, and reports, one hour. Prerequisites: courses 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 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 programs and health education programs, including community-based needs assessment, planning and developing community-based projects, and evaluation. Emphasis is on organizational and process skills; case fieldwork project. Mr. Brown

490. Professional Writing for Public Health (1/2 course). Prerequisite: consent of instructor. Practice in writing reports, grant proposals, abstracts, and art-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.

495. Teacher Preparation in Public Health (1/2 course). Prerequisites: eighteen units of cognate courses in areas 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 (1/2 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.

506. Directed Individual Study or Research (1/2 to 2 courses). Prerequisite: 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 (1/2 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.

599. Doctoral Dissertation Research (1/2 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)
Mohammad 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 L. Zink, Ph.D. (Chemistry)

Professor
Leona M. Libby, Ph.D., Adjunct

Assistant Professors
William Dritschilo, Ph.D., Adjunct
Laura M. Lake, Ph.D., Adjunct
Bar B. Sokolow, D.Env., Adjunct

Lecturers
Robert G. Lindberg, Ph.D.
Paul M. Merfield, 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 professional objective 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, waste 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 advisor. 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.
Appendix

Non-discrimination

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 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 duration 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 includes registering to vote and voting in California elections; designating California as the permanent address on all school, employment, and military records; obtaining a California driver's license or if a non-driver, a California identification card; obtaining California vehicle registration; paying California income taxes as a resident, including income earned outside California from the

Salary and Employment Information, University of California

<table>
<thead>
<tr>
<th>FIELD OF STUDY</th>
<th>DEGREE LEVEL OF GRADUATES</th>
<th>PROBABLE OR DEFINITE JOB COMMITMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BACHELOR'S</td>
<td>MASTER'S</td>
</tr>
<tr>
<td></td>
<td>AVERAGE MONTHLY SALARY1</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>$1,667-2,675</td>
<td>$1,943-2,552</td>
</tr>
<tr>
<td>Humanities</td>
<td>900-1,750</td>
<td>1,125-2,100</td>
</tr>
<tr>
<td>Life Science</td>
<td>916-1,955</td>
<td>--</td>
</tr>
<tr>
<td>Management</td>
<td>1,084-1,850</td>
<td>1,600-2,750</td>
</tr>
<tr>
<td>Physical Science</td>
<td>1,350-2,425</td>
<td>1,280-2,611</td>
</tr>
<tr>
<td>Social Science</td>
<td>916-1,675</td>
<td>1,085-2,075</td>
</tr>
<tr>
<td>Medical</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Dental</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

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 exempt from the nonresident tuition fees until he or she has resided in the state the minimum time necessary to become a resident. He or she must provide the Residence Deputy with a statement from the commanding officer or personnel officer stating the assignment to active duty in California is not for educational purposes and must include the dates of assignment to the state.

(2) Spouse or Other Dependents of Military Personnel — Exemption from payment of the nonresident tuition fee is available to a spouse or to a natural or adopted child or stepchild who is a dependent of a member of the United States military stationed in California on active duty. Such exemption shall be maintained until the student has resided in California the minimum time necessary to become a resident. The student must petition for this exemption each term he or she is eligible. If a student is enrolled in an institution and the member of the military (a) transfers 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 age 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. It is necessary to change driver’s license and 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
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 cheating, 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 disciplinary 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, or a copy thereof, until the end of the next succeeding regular quarter vacy. Otherwise University contained in the students assume an obligation to act. All UCLA of instruction, during which the student 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. Carter 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. Hersh 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
- Castena 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
Regents Ex Officio

Governor of California
George Deukmejian

Lieutenant Governor of California
Leo T. McCarthy

Speaker of the Assembly
Willie L. Brown, Jr.

State Superintendent of Public Instruction
William Honig

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

Appointed Regents

Glenn Campbell (1984)
William French Smith (1986)
Robert O. Reynolds (1986)
Dean A. Watkins (1984)
Robert N. Noyce (1992)
Frank W. Clark, Jr. (1988)
Yvonne Brathwaite Burke (1993)
Robert N. Noyce (1992)
Jeremiah F. Hallisey (1993)
Sheldon W. Andelson (1994)
Harold M. Williams (1994)

Faculty Representatives to the Board of Regents
Robert E. Connick
Ralph H. Turner

Officers of The Regents

President of The Regents
George Deukmejian

Chair of The Regents
Glenn Campbell

Vice Chair of The Regents
Vioma S. Martinez

General Counsel
Donald L. Reidhaar

Secretary
Bonnie M. Smotony

Treasurer
Herbert M. Gordon

Systemwide Administration

President of the University
David P. Gardner

Vice President of the University
To be named

Academic Vice President
William R. Frazer

Vice President—Academic and Staff Personnel Relations
To be named

Vice President—Agriculture and University Services
James B. Kendrick, Jr.

Assistant President—Coordination and Review
To be named

Vice President—Financial and Business Management
Ronald W. Brady

Executive Assistant to the President
David A. Wilson

Officers Emeriti

President of the University, Emeritus, and Professor of Economics, Emeritus
Charles J. Hitch

President of the University, Emeritus, and Professor of Business Administration, Emeritus
Clark Kerr

Vice President of the University, Emeritus, Professor of Agricultural Economics, Emeritus, and Agricultural Economist, Emeritus
Harry R. Wellman

Vice President—Budget Plans and Relations, Emeritus
Thomas E. Jenkins

University Provost, Emeritus, Chancellor at Santa Cruz, Emeritus, and Professor of Mathematics, Emeritus
Angus E. Taylor

Vice President, Emeritus, and Secretary and Treasurer of The Regents, Emeritus
Robert M. Underhill

Treasurer of The Regents, Emeritus
Owsley B. Hammond

General Counsel of The Regents, Emeritus
Thomas J. Cunningham

Associate Counsel of The Regents, Emeritus
John E. Landon

Chancellors of the Campuses

Chancellor at Berkeley
Ira Michael Heyman

Chancellor at Davis
James H. Meyer

Chancellor at Irvine
Daniel G. Aldrich, Jr.

Chancellor at Los Angeles
Charles E. Young

Chancellor at Riverside
Tomas Rivera

Chancellor at San Diego
Richard C. Atkinson

Chancellor at San Francisco
Julius R. Krevans

Chancellor at Santa Barbara
Robert A. Huttenback

Chancellor at Santa Cruz
Robert L. Sinsheimer

University Professors

Melvin Calvin, Emeritus University Professor
Berkeley, Laboratory of Chemical Dynamics

Murray Krieger, University Professor
Irvine, Department of English and Comparative Literature

Josephine Miles, Emeritus University Professor
Berkeley, Department of English

Julian S. Schwinger, University Professor
Los Angeles, Department of Chemistry

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

UCLA Administrative Officers

Chancellor
Charles E. Young, Ph.D.

Executive Vice Chancellor
William D. Schaefer, Ph.D.

Vice Chancellor—Faculty Relations
Harold W. Horowitz, S.J.D.

Vice Chancellor—Graduate Programs and Dean of Graduate Division
Victoria A. Fromkin, Ph.D.

Vice Chancellor—Research Programs
Albert A. Barber, Ph.D.

Vice Chancellor—Student Affairs
Winston C. Doby, Ed.D.

Executive Assistant to the Chancellor
Rosemary Ford, B.A.

Assistant to the Chancellor—Special Projects
John R. Sandbrook

Director of Hospital and Clinics
Raymond G. Schultze, M.D.

Director of Neuropsychiatric Institute
Louis Jolyon West, M.D.

Director of Neuropsychiatric Institute Hospital and Clinics
Milton Greenblatt, M.D.

Campus Counsel
Patricia M. Jasper, J.D.

University Librarian
Russell Shank, M.B.A., D.L.S.

Dean of Continuing Education
Leonard Friedman, Ph.D.

Deans of UCLA Colleges and Schools

Graduate School of Architecture and Urban Planning
Harvey S. Perloff, Ph.D.

School of Dentistry
James R. Hooley, D.D.S.

Graduate School of Education
To be named

School of Engineering and Applied Science
George L. Turin, D.Sc.

College of Fine Arts
Robert H. Gray, M.F.A.

College of Letters and Science
Provost
Raymond L. Orbach, Ph.D.

Division of Humanities
Herbert Morris, LL.B., D.Phil.

Division of Life Sciences
John D. O’Connor, Ph.D.

Division of Physical Sciences
Clarence A. Hall, Jr., Ph.D.

Division of Social Sciences
Antony R. Orme, Ph.D.

Division of Honors
J. William Schopf, Ph.D.

Graduate School of Library and Information Science
Robert M. Hayes, Ph.D.

Graduate School of Management
J. Clayburn La Force, Jr., Ph.D.

School of Medicine
Sherman M. Mellinkoff, M.D.

Associate Dean
A. Frederick Rasmussen, Jr., M.D., Ph.D.

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

College of Letters and Science
Provost
Raymond L. Orbach, Ph.D.

Division of Humanities
Herbert Morris, LL.B., D.Phil.

Division of Life Sciences
John D. O’Connor, Ph.D.

Division of Physical Sciences
Clarence A. Hall, Jr., Ph.D.

Division of Social Sciences
Antony R. Orme, Ph.D.

Division of Honors
J. William Schopf, Ph.D.

Graduate School of Library and Information Science
Robert M. Hayes, Ph.D.

Graduate School of Management
J. Clayburn La Force, Jr., Ph.D.

School of Medicine
Sherman M. Mellinkoff, M.D.

Associate Dean
A. Frederick Rasmussen, Jr., M.D., Ph.D.

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
Index

Absence During a Quarter, 62
Academic Advancement Program, 37
Academic Computing, Office of, 9
Academic Counseling, 16
Academic Credit, 65
Academic Dismissal, 34
Academic Excellence, 38
Academic Probation, 33
Academic Residence, 49, 51
Academic Resources Center (ARC), 37
Academic Senate, 5, 56
Academics, 57
Add/Drop Courses—See Study List Changes, 24
Address/Name Changes, 61
Administrative Officers, 464
Admission to the University—
As a Foreign Student, 23, 41
As a Freshman, 20, 22
As a Graduate Student, 41
As a Transfer Student, 22, 23
Resident and Nonresident Status, 459
To Schools of Dentistry, Law, Medicine, 44
Advance Loan Check, 48
Advanced Placement Tests, Credit for—
Fine Arts, 287
Letters and Science, 74-75
Advanced Standing—See Transfer Students
Admission to Candidacy, 50, 52
Advising and Academic Assistance, 36
Aerospace Studies, 263
Affirmative Affairs Office, Graduate, 48
African Area Studies (Interdepartmental Program), 52, 68, 78
African Languages Major, 206
African Studies Center, 7
African Studies (Interdepartmental Program), 70, 80
Afrikaans, 174
Afro-American Studies, Center for, 7
Afro-American Studies (Interdepartmental Program), 52, 68, 81
Air Force ROTC—See Aerospace Studies, 263
Akan, 210
Akkad, 230
Alpha Lambda Delta, 38
Alumni Association, 18
Scholarships, 28
American College Test (ACT), 21, 22
American Cultures, Institute of, 7
American History and Institutions, 33
American Indian Studies (Interdepartmental Program), 52, 68, 83
American Indian Studies Center, 7
Anatomy Department, 406
Medical History Division, 409
Ancient Egyptian, 226
Ancient Near East, 226
Ancient Near Eastern Civilizations Major, 225
Anesthesiology Department, 409
Announcement of Candidacy, 63
Anthropology Department, 84
Apartments, 11, 12
Appendix, 459
Application Fees, 20, 21, 41
Applied Linguistics (Interdepartmental Program), 52, 68, 93
Applied Mathematics Major, 212
Applying for Admission—
Graduate, 41
Undergraduate, 20
Arabic Major, 225
Aramaic, 230
Archeology, Institute of, 7
Archaeology (Interdepartmental Program), 52, 68, 95
Architecture and Urban Planning, Graduate School of, 347
Library, 8
Archive Collections, 9
Armenian, 228
Army ROTC—See Military Science, 263
Art, Design, and Art History Department, 288
Art Galleries and Museums, 9
Art History Major, 286, 288, 290
Art Library, 8
Art Major, 286, 289, 290
Articulated Degree Programs, 52, 53
Asian American Studies Center, 7
Asian American Studies (Interdepartmental Program), 52, 68, 70, 98
Assigning a Grade, 461
Assistantships, Graduate Student, 45, 48
Associated Students (ASUCLA), 12
Check Cashing, 13
Food Service, 12
Graphic Services, 13
Meeting Rooms and Lounges, 13
Money Orders, 13
Personnel, 13
Post Office Boxes, 13
Students' Store, 13
Travel Service, 13
Astronomy Department, 99
Athletics, 15
Atmospheric Sciences Department, 101
Audiovisual Center, 37
Bachelor's Degrees, Requirements for, 32
Engineering, 320
Fine Arts, 286
Letters and Science, 70
Nursing, 434
Bacteriology—See Microbiology, 220
Bambara, 210
Bantu, 211
Bashkir, 230
Bell, Elmer, Library of Vinciana, 8
Berber, 228
Biochemistry—See Chemistry and Biochemistry, 113
Biological Chemistry Department, 411
Biological Collections, 9
Biology Department, 105
Biomathematics Department, 413
Biomedical and Environmental Sciences, Laboratory of, 6
Biomedical Library, 8
Biostatistics, 446, 448
Blue Key, 38
Botanical Garden, Mildred E. Mathias, 9
Botany—See Biology, 105
Brain Research Institute, 6
Breadth Requirements (Letters and Science), 71, 72, 74-75
Broadcast Media, 14
Bruin Life, 14
Budget, Estimated Annual—
Graduate, 47
Undergraduate, 26
Bulgarian, 268
Business Administration, Master of, 385
Business and Administration (Interdepartmental Program), 70, 112
Business Forecasting Project, 7
Cafeterias—See Food Service, 12
Calendar, iv
California Student Aid Commission Grants, 28
California, University of, 4
Campus Activities Service Office, 14
Campus Community Safety, Department of, 18
Campus, Directions to, 472
Campus Events Commission, 13
Campus Housing, 11
Campus Map, 472
Campus Parking Service, 12
Cancellation of Registration, 62
Candidacy for Advanced Degrees, 50, 52
Candidate in Philosophy Degree, 51
Candidate in Philosophy Degree, 51
Camps, Gowns, and Hoods, 63
Career Planning—See Placement and Career Planning Center, 16
Career Planning—See Placement and Career Planning Center, 16
Carter, Hannah, Japanese Garden, 9
Catalog Organization, Inside Front Cover, 65
Caucasian Languages, 228
Centers—
Academic Resources (ARC), 37
African Studies, 7
Afro-American Studies, 7
American Indian Studies, 7
Asian American Studies, 7
Chicano Studies Research, 7
Comparative Folklore and Mythology, 7
Grunwald Center for the Graphic Arts, 9
Gustave E. von Grunebaum Center for Near Eastern Studies, 7
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Enhancement</td>
<td>6</td>
</tr>
<tr>
<td>International and Strategic Affairs</td>
<td>7</td>
</tr>
<tr>
<td>International Student</td>
<td>17</td>
</tr>
<tr>
<td>Jerry Lewis Neuromuscular Research</td>
<td>6</td>
</tr>
<tr>
<td>John Wooden Recreation and Sports</td>
<td>15</td>
</tr>
<tr>
<td>Jonsson Comprehensive Cancer</td>
<td>6</td>
</tr>
<tr>
<td>Latin American</td>
<td>7</td>
</tr>
<tr>
<td>Los Angeles Tennis</td>
<td>15</td>
</tr>
<tr>
<td>Medieval and Renaissance Studies</td>
<td>7</td>
</tr>
<tr>
<td>Mental Retardation Research</td>
<td>6</td>
</tr>
<tr>
<td>National Center for Intermediate Transport Research</td>
<td>7</td>
</tr>
<tr>
<td>Performing Arts</td>
<td>4, 15</td>
</tr>
<tr>
<td>Placement and Career Planning</td>
<td>16</td>
</tr>
<tr>
<td>Plasma Physics and Fusion Engineering</td>
<td>7</td>
</tr>
<tr>
<td>Reed Neurological Research</td>
<td>6</td>
</tr>
<tr>
<td>Russian and East European Studies</td>
<td>7</td>
</tr>
<tr>
<td>Spanish Speaking Mental Health Research</td>
<td>255</td>
</tr>
<tr>
<td>Study of Education</td>
<td>7</td>
</tr>
<tr>
<td>Sunset Canyon Recreation</td>
<td>15</td>
</tr>
<tr>
<td>Ulcer Research and Education</td>
<td>6</td>
</tr>
<tr>
<td>Central Ticket Office</td>
<td>17</td>
</tr>
<tr>
<td>Certificate of Completion</td>
<td>63</td>
</tr>
<tr>
<td>Certificate of Resident Study for Foreign Students</td>
<td>61</td>
</tr>
<tr>
<td>Chagatay, 231</td>
<td></td>
</tr>
<tr>
<td>Chancellor's Scholarships</td>
<td>28</td>
</tr>
<tr>
<td>Change of Address/Name</td>
<td>61</td>
</tr>
<tr>
<td>Change of College or Major—Graduate</td>
<td>45</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>25, 70</td>
</tr>
<tr>
<td>Change of Study List</td>
<td>24</td>
</tr>
<tr>
<td>Check Cashing</td>
<td>13</td>
</tr>
<tr>
<td>Chemical Engineering Department</td>
<td>332</td>
</tr>
<tr>
<td>Chemistry and Biochemistry Department</td>
<td>113</td>
</tr>
<tr>
<td>Chemistry Library</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry/Materials Science (Interdepartmental Program)</td>
<td>68, 119</td>
</tr>
<tr>
<td>Chicano Studies (Interdepartmental Program)</td>
<td>68, 120</td>
</tr>
<tr>
<td>Chicano Studies Research Center</td>
<td>7</td>
</tr>
<tr>
<td>Child Care Services</td>
<td>17</td>
</tr>
<tr>
<td>Chinese Major</td>
<td>232</td>
</tr>
<tr>
<td>Choosing Your Major</td>
<td>32</td>
</tr>
<tr>
<td>Clark Memorial Library</td>
<td>8</td>
</tr>
<tr>
<td>Class Status</td>
<td>58</td>
</tr>
<tr>
<td>Classical Civilization Major</td>
<td>121</td>
</tr>
<tr>
<td>Classics Department</td>
<td>121</td>
</tr>
<tr>
<td>Classics Major</td>
<td>123</td>
</tr>
<tr>
<td>Greek Major</td>
<td>124</td>
</tr>
<tr>
<td>Latin Major</td>
<td>124</td>
</tr>
<tr>
<td>Clinics—See Student Health Service</td>
<td>16</td>
</tr>
<tr>
<td>Clubs and Organizations</td>
<td>13</td>
</tr>
<tr>
<td>College and School Advisers</td>
<td>36</td>
</tr>
<tr>
<td>College Honors (Letters and Science)</td>
<td>75</td>
</tr>
<tr>
<td>College Library</td>
<td>8</td>
</tr>
<tr>
<td>College of Fine Arts</td>
<td>285</td>
</tr>
<tr>
<td>College of Letters and Science</td>
<td>67</td>
</tr>
<tr>
<td>College Work-Study (Federal)</td>
<td>29</td>
</tr>
<tr>
<td>Commencement</td>
<td>63</td>
</tr>
<tr>
<td>Committees—</td>
<td>51</td>
</tr>
<tr>
<td>Doctoral</td>
<td></td>
</tr>
<tr>
<td>Master's Thesis</td>
<td>50</td>
</tr>
<tr>
<td>Communication Studies (Interdepartmental Program)</td>
<td>68, 126</td>
</tr>
<tr>
<td>Communications Board (ASUCLA)</td>
<td>13</td>
</tr>
<tr>
<td>Comparative Folklore and Mythology, Center for the Study of</td>
<td>7</td>
</tr>
<tr>
<td>Comparative Literature (Interdepartmental Program)</td>
<td>52, 68, 127</td>
</tr>
<tr>
<td>Complaints, Graduate Student</td>
<td>56</td>
</tr>
<tr>
<td>Composition Requirement—See English</td>
<td></td>
</tr>
<tr>
<td>Composition Requirement</td>
<td>33, 151</td>
</tr>
<tr>
<td>Composition Section (English)</td>
<td>151</td>
</tr>
<tr>
<td>Comprehensive Examination, Master's</td>
<td>51</td>
</tr>
<tr>
<td>Computer Science—</td>
<td></td>
</tr>
<tr>
<td>Department (Engineering)</td>
<td>333</td>
</tr>
<tr>
<td>Linguistics (Major)</td>
<td>205</td>
</tr>
<tr>
<td>Mathematics (Major)</td>
<td>68, 219</td>
</tr>
<tr>
<td>Computer Services</td>
<td>9</td>
</tr>
<tr>
<td>Concurrent Degree Program</td>
<td>52, 53</td>
</tr>
<tr>
<td>Concurrent Enrollment</td>
<td>60</td>
</tr>
<tr>
<td>Concurrently Scheduled Courses</td>
<td>66</td>
</tr>
<tr>
<td>Conduct, Student</td>
<td>462</td>
</tr>
<tr>
<td>Confidentiality of Student Records</td>
<td>462</td>
</tr>
<tr>
<td>Continuous Registration (Graduate)</td>
<td>45</td>
</tr>
<tr>
<td>Cooperatives</td>
<td>11</td>
</tr>
<tr>
<td>Coptic</td>
<td>226</td>
</tr>
<tr>
<td>Correction of Grades</td>
<td>59, 461</td>
</tr>
<tr>
<td>Correspondence Courses (Extension)</td>
<td>50</td>
</tr>
<tr>
<td>Correspondence Directory, Inside Back Cover</td>
<td></td>
</tr>
<tr>
<td>Council on Educational Development (CED)</td>
<td>35</td>
</tr>
<tr>
<td>Counseling, Academic</td>
<td>16</td>
</tr>
<tr>
<td>Counseling Assistants</td>
<td>36</td>
</tr>
<tr>
<td>Counseling Services (Letters and Science)</td>
<td>68</td>
</tr>
<tr>
<td>Course Credit</td>
<td>33</td>
</tr>
<tr>
<td>Courses, Classification of</td>
<td>65</td>
</tr>
<tr>
<td>Concurrently Scheduled</td>
<td>66</td>
</tr>
<tr>
<td>Graduate, 65</td>
<td></td>
</tr>
<tr>
<td>Lower Division, 65</td>
<td></td>
</tr>
<tr>
<td>Multiple-Listed, 66</td>
<td></td>
</tr>
<tr>
<td>Undergraduate, 65</td>
<td></td>
</tr>
<tr>
<td>Upper Division, 65</td>
<td></td>
</tr>
<tr>
<td>Credit by Examination</td>
<td>23, 60, 70</td>
</tr>
<tr>
<td>Credit for Advanced Placement Tests</td>
<td></td>
</tr>
<tr>
<td>Fine Arts</td>
<td>287</td>
</tr>
<tr>
<td>Letters and Science</td>
<td>74-75</td>
</tr>
<tr>
<td>Credit for Work Taken at Other Colleges—See Transfer Credit</td>
<td>23</td>
</tr>
<tr>
<td>Cross-Enrollment Program, Graduate</td>
<td>55</td>
</tr>
<tr>
<td>Crump Institute for Medical Engineering</td>
<td>6</td>
</tr>
<tr>
<td>Cultural History, Museum of</td>
<td>9</td>
</tr>
<tr>
<td>Cybernetics (Interdepartmental Program)</td>
<td>68, 130</td>
</tr>
<tr>
<td>Czech</td>
<td>286</td>
</tr>
<tr>
<td>Daily Bruin</td>
<td>14</td>
</tr>
<tr>
<td>Dance Department</td>
<td>15, 295</td>
</tr>
<tr>
<td>Danforth Compton Fellowship</td>
<td>48</td>
</tr>
<tr>
<td>Danish</td>
<td>176</td>
</tr>
<tr>
<td>Dean of Students Office</td>
<td>37</td>
</tr>
<tr>
<td>Dean's Honor List</td>
<td>38</td>
</tr>
<tr>
<td>Engineering, 322</td>
<td></td>
</tr>
<tr>
<td>Fine Arts</td>
<td>287</td>
</tr>
<tr>
<td>Letters and Science</td>
<td>75</td>
</tr>
<tr>
<td>Declaration of Major</td>
<td>32, 68</td>
</tr>
<tr>
<td>Defense Language Institute—Presidio of Monterey</td>
<td>55</td>
</tr>
<tr>
<td>Deferred Report (DR) Grades</td>
<td>59</td>
</tr>
<tr>
<td>Degree Candidate Card</td>
<td>63</td>
</tr>
<tr>
<td>Degree Checks</td>
<td>63</td>
</tr>
<tr>
<td>Degrees—</td>
<td></td>
</tr>
<tr>
<td>Bachelor's, 32</td>
<td></td>
</tr>
<tr>
<td>Candidate in Philosophy</td>
<td>51</td>
</tr>
<tr>
<td>Doctoral</td>
<td>51</td>
</tr>
<tr>
<td>Master's, 49</td>
<td></td>
</tr>
<tr>
<td>Dental Research Institute</td>
<td>6</td>
</tr>
<tr>
<td>Dentistry, School of</td>
<td>401</td>
</tr>
<tr>
<td>Oral Biology</td>
<td>402</td>
</tr>
<tr>
<td>Predental Curriculum (Letters and Science)</td>
<td>76</td>
</tr>
<tr>
<td>Predental Hygiene Curriculum (Letters and Science)</td>
<td>76</td>
</tr>
<tr>
<td>Departmental Honors</td>
<td>38</td>
</tr>
<tr>
<td>Departmental Scholar Program</td>
<td>38</td>
</tr>
<tr>
<td>Design Major</td>
<td>289</td>
</tr>
<tr>
<td>Developmental Disabilities Immersion Program</td>
<td>35, 253</td>
</tr>
<tr>
<td>Diplomas</td>
<td>63</td>
</tr>
<tr>
<td>Directions to Campus</td>
<td>472</td>
</tr>
<tr>
<td>Disabled Students</td>
<td>17</td>
</tr>
<tr>
<td>Disclosure of Student Records</td>
<td>462</td>
</tr>
<tr>
<td>Dismissal, Academic</td>
<td>34</td>
</tr>
<tr>
<td>Disqualification and Appeal</td>
<td>56</td>
</tr>
<tr>
<td>Dissertation</td>
<td>52</td>
</tr>
<tr>
<td>Diversified Liberal Arts (Interdepartmental Program)</td>
<td>70, 130</td>
</tr>
<tr>
<td>Division of Honors (Letters and Science)</td>
<td>76</td>
</tr>
<tr>
<td>Doctoral Committee</td>
<td>51</td>
</tr>
<tr>
<td>Doctoral Degrees</td>
<td>51</td>
</tr>
<tr>
<td>Doctor of Education</td>
<td>362</td>
</tr>
<tr>
<td>Doctor of Environmental Science and Engineering</td>
<td>457</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>51</td>
</tr>
<tr>
<td>Doctor of Public Health</td>
<td>446</td>
</tr>
<tr>
<td>Doctor of Social Welfare</td>
<td>399</td>
</tr>
<tr>
<td>Dormitories—See On-Campus Housing</td>
<td>11</td>
</tr>
<tr>
<td>Dorothy Danforth Compton Fellowship</td>
<td>48</td>
</tr>
<tr>
<td>Double Majors</td>
<td>70</td>
</tr>
<tr>
<td>Drake Stadium</td>
<td>15</td>
</tr>
<tr>
<td>Drop/Add Courses</td>
<td></td>
</tr>
<tr>
<td>See Study List Changes</td>
<td>24</td>
</tr>
<tr>
<td>Dropping Out—See Withdrawal</td>
<td>62</td>
</tr>
<tr>
<td>Duplication of Graduate Degrees</td>
<td>43</td>
</tr>
<tr>
<td>Dutch-Flemish and Afrikaans</td>
<td>174</td>
</tr>
<tr>
<td>Earth and Space Sciences Department</td>
<td>131</td>
</tr>
<tr>
<td>East Asian Studies (Interdepartmental Program)</td>
<td>68, 138</td>
</tr>
<tr>
<td>Economics Department</td>
<td>138</td>
</tr>
<tr>
<td>Economics/Business Major</td>
<td>143</td>
</tr>
<tr>
<td>Economics/International Area Studies Major</td>
<td>144</td>
</tr>
<tr>
<td>Economics/System Science (Interdepartmental Program)</td>
<td>68, 144</td>
</tr>
<tr>
<td>Education, Graduate School of</td>
<td>359</td>
</tr>
<tr>
<td>Education Abroad Program</td>
<td>10</td>
</tr>
<tr>
<td>Education and Psychology Library</td>
<td>8</td>
</tr>
<tr>
<td>Education at Home Program</td>
<td>35</td>
</tr>
<tr>
<td>Education Fee Grants and Loans</td>
<td>28, 29</td>
</tr>
<tr>
<td>Educational Testing Service (ETS) Foreign Language Examinations</td>
<td>50</td>
</tr>
<tr>
<td>Edwin W. Pauley Pavilion</td>
<td>15</td>
</tr>
<tr>
<td>Egyptian (Ancient)</td>
<td>226</td>
</tr>
<tr>
<td>Electrical Engineering Department</td>
<td>336</td>
</tr>
<tr>
<td>Elmer Belt Library of Viniana</td>
<td>8</td>
</tr>
<tr>
<td>Elvin C. Drake Stadium</td>
<td>15</td>
</tr>
<tr>
<td>Emergency Educational Loans</td>
<td>29</td>
</tr>
<tr>
<td>Employment—See Job Opportunities</td>
<td>13</td>
</tr>
<tr>
<td>Endowed Chairs</td>
<td>463</td>
</tr>
<tr>
<td>Engineer Degree</td>
<td>324</td>
</tr>
<tr>
<td>Engineering and Applied Science, School of</td>
<td>319</td>
</tr>
<tr>
<td>Engineering and Mathematical Sciences Library</td>
<td>8</td>
</tr>
<tr>
<td>Engineering Systems Department</td>
<td>339</td>
</tr>
<tr>
<td>English Composition Requirement</td>
<td>33, 151</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>286</td>
</tr>
<tr>
<td>Letters and Science</td>
<td>71</td>
</tr>
</tbody>
</table>
INDEX / 469

Jules Stein Eye, 6
Molecular Biology, 6
Neuropsychiatry, 6
Social Science Research, 7
Insurance, Supplemental Health, 16
Intercampus Exchange Program, 55
Intercampus Transfer, 62
Intercollegiate Sports and Facilities, 15
Interdepartmental Degree Programs (Graduate), 52
Interdepartmental Majors (Undergraduate), 68
Intermedia Transport Research, National Center for, 7
International and Strategic Affairs, Center for, 7
International Relations, Special Program in, 70, 189
International Student Services, 17 (See also Foreign Students)
Intramural Sports Office, 15
Iranian, 229
Irish, 150
Islamic Studies, 229
Islamic Studies (Interdepartmental Program), 52, 68, 189
Italian Department, 191
Japanese Garden, Hannah Carter, 9
Japanese Major, 232
Jerry Lewis Neuromuscular Research Center, 6
Jewish Studies Major, 225
Job Opportunities on Campus, 13
John Wooden Recreation and Sports Center, 15
Jonsson Comprehensive Cancer Center, 6
Journalism, 195
Jules Stein Eye Institute, 6
Juris Doctor Degree, 370
Kinesiology Department, 195
KLA Radio, 14
Knowing Your Responsibilities, 32
Laboratory Animal Medicine, Division of, 9
Laboratory of Biomedical and Environmental Sciences, 6
Language Instructional Laboratory, 37
Languages—
For Graduate Degrees, 50, 51
For Undergraduate Admission, 22
Courses—
Afrikaans, 174
Akan, 210
Akkadian, 230
Arabic, 227
Aramaic, 230
Armenian, 228
Bambara, 210
Bantu, 211
Bashkir, 230
Berber, 226
Bulgarian, 268
Chagatay, 231
Chinese, 233
Coptic, 226
Czech, 268
Danish, 176
Dutch-Flemish, 174
Egyptian (Ancient), 226
Finnish, 176
French, 174
Fula, 210
Georgian, 228
German, 170
Gothic, 173
Greek, 124
Hausa, 210
Hebrew, 228
Hungarian, 174
Icelandic, 175
Igbo, 210
Iranian, 229
Irish, 150
Islamics, 229
Italian, 191
Japanese, 233
Latin, 124
Lithuanian, 269
Mongolian, 234
Norwegian, 176
Old Norse, 175
Pali, 234
Persian, 229
Phoenician, 230
Polish, 268
Portuguese, 280
Prakrits, 234
Quecha, 211
Romanian, 269
Russian, 268
Sanskrit, 234
Serbo-Croatian, 269
Slovak, 269
Spanish, 277
Sumerian, 226
Swahili, 210
Swedish, 176
Syriac, 230
Turkish, 230
Ugaritic, 230
Ukrainian, 269
Urdu, 231
Uzbek, 230
Vedic, 234
Welsh, 150
Xhosa, 210
Yiddish, 175
Yoruba, 210
Zulu, 210
Lapse of Status, 47
Late Payment of Fees, 26, 47
Latin Major, 124
Latin American Center, 7
Latin American Studies (Interdepartmental Program), 52, 68, 199
Law Library, 8
Law, School of, 369
Prelaw Studies (Letters and Science), 78
Learning Laboratory, 37
Leave of Absence (Graduate), 62
Leaving UCLA, 62
Legal Services (Student), 17
Letters and Science, College of, 67
Letters of Recommendation, 41
Lewis, Jerry, Neuromuscular Research Center, 6
Liberal Arts, Diversified, 70, 130
Libraries, 7
College, 8
University Research, 8
Special, 8
Library and Information Science, Graduate School of, 377
Linguistics Department, 204
African Languages, 206, 210
General Linguistics, 208
Indigenous Languages of the Americas, 211
Lithuanian, 269
Living Accommodations, 11
Living Expenses—Graduate, 47, 48
Undergraduate, 26
Loans, 28
Lower Division Courses, 65
Luso-Brazilian Language and Literatures, 277
Majors, Change of, 25, 45
Choosing Your Major, 32
Major Regulations—Engineering and Applied Science, 321
Fine Arts, 287
Letters and Science, 68-71
Nursing, 434
Management, Graduate School of, 383
Management Library, 8
Map, Campus, 472
Map Library, 8
Mardi Gras, 14
Master's Degree, 49
Master of Architecture, 348, 349
Master of Arts, 49
Master of Business Administration, 385
Master of Education, 361
Master of Engineering, 324
Master of Fine Arts, 290, 302, 309, 310
Master of Laws, 371
Master of Library Science, 378
Master of Nursing, 435
Master of Public Health, 443
Master of Science, 49
Master of Social Welfare, 398
Master's Thesis, 50
Materials Science and Engineering Department, 339
Mathematics Department, 211
Applied Mathematics Major, 212
Mathematics/Applied Science Major, 213
Mathematics/Computer Science (Interdepartmental Program), 68, 219
Mathematics/Systems Science (Interdepartmental Program), 68, 220
Mathias Botanical Garden, 9
Mechanics and Structures Department, 340
Medical Engineering, Crump Institute for, 6
Medical History—See Anatomy, 409
Medical Physics Major, 431, 432
Medical Service, Student—See Student Health Service, 16
Medicine, School of, 405
Premedical Studies (Letters and Science), 77
Medicine, Law, and Human Values Program, 35
Medieval and Renaissance Studies, Center for, 7
Meeting Rooms and Lounges, 13
Men's Intercollegiate Sports, 15
Mental Retardation Research Center, 6
Meteorology—See Atmospheric Sciences, 101
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology Department, 220</td>
<td></td>
</tr>
<tr>
<td>Microbiology and Immunology Department, 416</td>
<td></td>
</tr>
<tr>
<td>Military Science, 263</td>
<td></td>
</tr>
<tr>
<td>Minimum Progress, 34</td>
<td></td>
</tr>
<tr>
<td>Minimum Scholarship Requirements, 33</td>
<td></td>
</tr>
<tr>
<td>Minimum Standards for Graduate Degrees, 49, 51</td>
<td></td>
</tr>
<tr>
<td>Model United Nations, 35</td>
<td></td>
</tr>
<tr>
<td>Molecular Biology Institute, 6</td>
<td></td>
</tr>
<tr>
<td>Molecular Biology (Interdepartmental Program), 52, 68-69, 224</td>
<td></td>
</tr>
<tr>
<td>Money Orders, 13</td>
<td></td>
</tr>
<tr>
<td>Mongolian, 234</td>
<td></td>
</tr>
<tr>
<td>Moore, Ernest Carroll, 2</td>
<td></td>
</tr>
<tr>
<td>Mortar Board, 38</td>
<td></td>
</tr>
<tr>
<td>Motion Picture/Television Major, 308, 309, 310, 311</td>
<td></td>
</tr>
<tr>
<td>Multiple-Listed Courses, 66</td>
<td></td>
</tr>
<tr>
<td>Murphy, Franklin D., Sculpture Garden, 9</td>
<td></td>
</tr>
<tr>
<td>Museums, Galleries, and Other Resources, 9</td>
<td></td>
</tr>
<tr>
<td>Academic Computing, Office of, 9</td>
<td></td>
</tr>
<tr>
<td>Biological Collections, 9</td>
<td></td>
</tr>
<tr>
<td>Division of Laboratory Animal Medicine, 9</td>
<td></td>
</tr>
<tr>
<td>Franklin D. Murphy Sculpture Garden, 9</td>
<td></td>
</tr>
<tr>
<td>Frederick S. Wight Art Gallery, 9</td>
<td></td>
</tr>
<tr>
<td>Gruwald Center for the Graphic Arts, 9</td>
<td></td>
</tr>
<tr>
<td>Hannah Carter Japanese Garden, 9</td>
<td></td>
</tr>
<tr>
<td>Mildred E. Mathias Botanical Garden, 9</td>
<td></td>
</tr>
<tr>
<td>Museum of Cultural History, 9</td>
<td></td>
</tr>
<tr>
<td>Natural Land and Water Reserves System, 9</td>
<td></td>
</tr>
<tr>
<td>Music Department, 15, 300</td>
<td></td>
</tr>
<tr>
<td>Music Library, 8</td>
<td></td>
</tr>
<tr>
<td>Mythology, 155</td>
<td></td>
</tr>
<tr>
<td>Name/Address Change, 61</td>
<td></td>
</tr>
<tr>
<td>National Center for Intermedia Transport Research, 7</td>
<td></td>
</tr>
<tr>
<td>National Direct Student Loans, 29</td>
<td></td>
</tr>
<tr>
<td>Natural Land and Water Reserves System, 9</td>
<td></td>
</tr>
<tr>
<td>Natural Science, 265</td>
<td></td>
</tr>
<tr>
<td>Navy ROTC—See Naval Science, 265</td>
<td></td>
</tr>
<tr>
<td>Near Eastern Languages and Cultures Department, 224</td>
<td></td>
</tr>
<tr>
<td>Ancient Near East, 225, 226</td>
<td></td>
</tr>
<tr>
<td>Arabic, 225, 227</td>
<td></td>
</tr>
<tr>
<td>Armenian, 228</td>
<td></td>
</tr>
<tr>
<td>Berber, 228</td>
<td></td>
</tr>
<tr>
<td>Caucasian Languages, 228</td>
<td></td>
</tr>
<tr>
<td>Hebrew, 225, 228</td>
<td></td>
</tr>
<tr>
<td>Iranian, 229</td>
<td></td>
</tr>
<tr>
<td>Islamics, 229</td>
<td></td>
</tr>
<tr>
<td>Jewish Studies, 225, 229</td>
<td></td>
</tr>
<tr>
<td>Near Eastern Languages, 230</td>
<td></td>
</tr>
<tr>
<td>Semitics, 230</td>
<td></td>
</tr>
<tr>
<td>Turkic Languages, 230</td>
<td></td>
</tr>
<tr>
<td>Urdu, 231</td>
<td></td>
</tr>
<tr>
<td>Near Eastern Studies, Gustave E. von Grunebaum Center for, 7</td>
<td></td>
</tr>
<tr>
<td>Near Eastern Studies (Interdepartmental Program), 68-69, 231</td>
<td></td>
</tr>
<tr>
<td>Neuropsychiatric Institute, 6</td>
<td></td>
</tr>
<tr>
<td>Neuroacience (Interdepartmental Program), 52, 418</td>
<td></td>
</tr>
<tr>
<td>Night Train, 18</td>
<td></td>
</tr>
<tr>
<td>No Degree Objective, 43</td>
<td></td>
</tr>
<tr>
<td>Nondiscrimination Notice, 459</td>
<td></td>
</tr>
<tr>
<td>Nonresident Students—Admission Requirements, 22, 23</td>
<td></td>
</tr>
<tr>
<td>Definition of, 459</td>
<td></td>
</tr>
<tr>
<td>Reduced Programs, 47</td>
<td></td>
</tr>
<tr>
<td>Tuition, 26, 47</td>
<td></td>
</tr>
<tr>
<td>Normal School, State, 2</td>
<td></td>
</tr>
<tr>
<td>Norwegian, 176</td>
<td></td>
</tr>
<tr>
<td>Nurse Anesthesia—See Anesthesiology, 410</td>
<td></td>
</tr>
<tr>
<td>Nursing School, University Parents Cooperative, 18</td>
<td></td>
</tr>
<tr>
<td>Nursing, School of, 433</td>
<td></td>
</tr>
<tr>
<td>Nursing Loans, 29</td>
<td></td>
</tr>
<tr>
<td>Prenursing Curriculum (Letters and Science), 77</td>
<td></td>
</tr>
<tr>
<td>Oceanography—See Biology, 105</td>
<td></td>
</tr>
<tr>
<td>Office of International Students and Scholars, 17</td>
<td></td>
</tr>
<tr>
<td>Office of Residential Life, 11</td>
<td></td>
</tr>
<tr>
<td>Office of Special Services/Veterans Affairs, 17, 45</td>
<td></td>
</tr>
<tr>
<td>Office of Undergraduate Admissions and Relations with Schools, 20</td>
<td></td>
</tr>
<tr>
<td>Old Norse Studies, 175</td>
<td></td>
</tr>
<tr>
<td>Olympics, 4</td>
<td></td>
</tr>
<tr>
<td>Ombudsman, 17</td>
<td></td>
</tr>
<tr>
<td>One Quarter Absence (Undergraduate), 62</td>
<td></td>
</tr>
<tr>
<td>Oral Biology (Dentistry), 402</td>
<td></td>
</tr>
<tr>
<td>Oral Qualifying Examination, 51</td>
<td></td>
</tr>
<tr>
<td>Organizational Relations Office, 14</td>
<td></td>
</tr>
<tr>
<td>Organizational Studies or Urban Studies (Interdepartmental Program), 70, 282</td>
<td></td>
</tr>
<tr>
<td>Organized Research Units, 6</td>
<td></td>
</tr>
<tr>
<td>Oriental Languages Department, 231</td>
<td></td>
</tr>
<tr>
<td>Oriental Library, 8</td>
<td></td>
</tr>
<tr>
<td>Orientation, 32, 36</td>
<td></td>
</tr>
<tr>
<td>Outstanding Senior Award, 38</td>
<td></td>
</tr>
<tr>
<td>Pali, 234</td>
<td></td>
</tr>
<tr>
<td>Parent Toddler School, UCLA, 17</td>
<td></td>
</tr>
<tr>
<td>Parents Cooperative Nursery School, 18</td>
<td></td>
</tr>
<tr>
<td>Parking Space and Permits, 12</td>
<td></td>
</tr>
<tr>
<td>Part-Time Study (Undergraduate)—See Reduced Fee Programs, 26</td>
<td></td>
</tr>
<tr>
<td>Passed/Not Passed (P/NP) Grades, 59</td>
<td></td>
</tr>
<tr>
<td>Pathology Department, 420</td>
<td></td>
</tr>
<tr>
<td>Pauley Pavilion, 15</td>
<td></td>
</tr>
<tr>
<td>Pell Grants, 28</td>
<td></td>
</tr>
<tr>
<td>Performing Arts, 14</td>
<td></td>
</tr>
<tr>
<td>Performing Arts, Center for, 4, 15</td>
<td></td>
</tr>
<tr>
<td>Persian, 229</td>
<td></td>
</tr>
<tr>
<td>Petitions, 37</td>
<td></td>
</tr>
<tr>
<td>Pharmacology Department, 421</td>
<td></td>
</tr>
<tr>
<td>Phi Beta Kappa, 38</td>
<td></td>
</tr>
<tr>
<td>Phi Eta Sigma, 38</td>
<td></td>
</tr>
<tr>
<td>Philosophy Department, 235</td>
<td></td>
</tr>
<tr>
<td>Phoenixian, 230</td>
<td></td>
</tr>
<tr>
<td>Physics Department, 240</td>
<td></td>
</tr>
<tr>
<td>Physics Library, 8</td>
<td></td>
</tr>
<tr>
<td>Physiology Department, 423</td>
<td></td>
</tr>
<tr>
<td>Placement and Career Planning Center, 16</td>
<td></td>
</tr>
<tr>
<td>Plasma Physics and Fusion Engineering, Center for, 7</td>
<td></td>
</tr>
<tr>
<td>Police, Campus, 18</td>
<td></td>
</tr>
<tr>
<td>Polish, 268</td>
<td></td>
</tr>
<tr>
<td>Political Science Department, 245</td>
<td></td>
</tr>
<tr>
<td>Portuguese Major, 276</td>
<td></td>
</tr>
<tr>
<td>Postdoctoral Scholars, 55</td>
<td></td>
</tr>
<tr>
<td>Post Office Boxes, 13</td>
<td></td>
</tr>
<tr>
<td>Prakrits, 234</td>
<td></td>
</tr>
<tr>
<td>Predental Curriculum, 76</td>
<td></td>
</tr>
<tr>
<td>Predental Hygiene Curriculum, 76</td>
<td></td>
</tr>
<tr>
<td>Prehealth Care Advising, 76</td>
<td></td>
</tr>
<tr>
<td>Prelaw Studies, 78</td>
<td></td>
</tr>
<tr>
<td>Premedical Studies, 77</td>
<td></td>
</tr>
<tr>
<td>Preplanning, 77</td>
<td></td>
</tr>
<tr>
<td>Preoptometry Curriculum, 77</td>
<td></td>
</tr>
<tr>
<td>Preparatory Programs for New Students, 36</td>
<td></td>
</tr>
<tr>
<td>Preparing for University Work, 20</td>
<td></td>
</tr>
<tr>
<td>Prepharmacy Curriculum, 77</td>
<td></td>
</tr>
<tr>
<td>Prephysical Therapy Curriculum, 77</td>
<td></td>
</tr>
<tr>
<td>Prepublic Health Studies, 78</td>
<td></td>
</tr>
<tr>
<td>Prerequisites, 65</td>
<td></td>
</tr>
<tr>
<td>President’s Work-Study, 29</td>
<td></td>
</tr>
<tr>
<td>Prizes, 28</td>
<td></td>
</tr>
<tr>
<td>Probation, Academic (Undergraduate), 33</td>
<td></td>
</tr>
<tr>
<td>Probation, Scholarship (Graduate), 58</td>
<td></td>
</tr>
<tr>
<td>Professional School, Preparing for, 76</td>
<td></td>
</tr>
<tr>
<td>Professional School Seminars, Freshman/ Sophomore, 35</td>
<td></td>
</tr>
<tr>
<td>Program Planning, 32</td>
<td></td>
</tr>
<tr>
<td>Progress Toward the Bachelor’s Degree, 34</td>
<td></td>
</tr>
<tr>
<td>Psychiatry and Biobehavioral Sciences Department, 425</td>
<td></td>
</tr>
<tr>
<td>Psychobiology Major, 253</td>
<td></td>
</tr>
<tr>
<td>Psychological and Counseling Services, 17</td>
<td></td>
</tr>
<tr>
<td>Psychology Department, 252</td>
<td></td>
</tr>
<tr>
<td>Public Health, School of, 441</td>
<td></td>
</tr>
<tr>
<td>Publications and Broadcast Media, 14</td>
<td></td>
</tr>
<tr>
<td>Qualifying Examinations, Written and Oral, 51</td>
<td></td>
</tr>
<tr>
<td>Quantitative Psychology Major, 253</td>
<td></td>
</tr>
<tr>
<td>Quechua, 211</td>
<td></td>
</tr>
<tr>
<td>Radio Archives, 9</td>
<td></td>
</tr>
<tr>
<td>Radio Station KLA, 14</td>
<td></td>
</tr>
<tr>
<td>Radiological Sciences Department, 431</td>
<td></td>
</tr>
<tr>
<td>Rape Prevention and Education Services, 18</td>
<td></td>
</tr>
<tr>
<td>Reenrollment, 23, 44</td>
<td></td>
</tr>
<tr>
<td>Recreation Association, 14</td>
<td></td>
</tr>
<tr>
<td>Recreation Facilities, 15</td>
<td></td>
</tr>
<tr>
<td>Recreation Instructional Program, 15</td>
<td></td>
</tr>
<tr>
<td>Redirection, 21</td>
<td></td>
</tr>
<tr>
<td>Reduced Fee Programs, 26</td>
<td></td>
</tr>
<tr>
<td>Reed Neurological Research Center, 5</td>
<td></td>
</tr>
<tr>
<td>Refund of Fees—See Withdrawal, 62</td>
<td></td>
</tr>
<tr>
<td>Regents, Board of, 5</td>
<td></td>
</tr>
<tr>
<td>Regents Scholarships, 28</td>
<td></td>
</tr>
<tr>
<td>Registration and Enrollment—Graduate, 45</td>
<td></td>
</tr>
<tr>
<td>Undergraduate, 24</td>
<td></td>
</tr>
<tr>
<td>Registration Card, 61</td>
<td></td>
</tr>
<tr>
<td>Registration in the Final Quarter (Graduate), 46</td>
<td></td>
</tr>
<tr>
<td>Religion, Study of (Interdepartmental Program), 68-69, 281</td>
<td></td>
</tr>
<tr>
<td>Repetition of Courses, 59</td>
<td></td>
</tr>
<tr>
<td>Requirements, General University—For Bachelor’s Degrees, 33</td>
<td></td>
</tr>
<tr>
<td>For Doctoral Degrees, 51</td>
<td></td>
</tr>
<tr>
<td>For Master’s Degrees, 49</td>
<td></td>
</tr>
<tr>
<td>Research and Study Resources, 7</td>
<td></td>
</tr>
<tr>
<td>Research Assistants, 45, 48</td>
<td></td>
</tr>
<tr>
<td>Research Units and Facilities, 6</td>
<td></td>
</tr>
<tr>
<td>Research University, 3, 4</td>
<td></td>
</tr>
<tr>
<td>Reserve Officer Training Programs—See ROTC, 36, 263</td>
<td></td>
</tr>
<tr>
<td>Residence, Academic, 49, 51</td>
<td></td>
</tr>
<tr>
<td>Residence for Tuition Purposes, 21, 459</td>
<td></td>
</tr>
<tr>
<td>Residence Halls, 11</td>
<td></td>
</tr>
<tr>
<td>Resident Study, Certificate of, 61</td>
<td></td>
</tr>
<tr>
<td>Residential Life, Office of, 11</td>
<td></td>
</tr>
<tr>
<td>Romance Linguistics and Literature (Interdepartmental Program), 52, 68-69, 260</td>
<td></td>
</tr>
<tr>
<td>Romanian, 269</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The table is extracted from the index of a document, listing various topics and their corresponding page numbers. This is a representative sample and does not encompass the full scope of the document's content.
INDEX / 471

Student Life, 11
Student Loan Obligations, 28, 29
Student Population, 4
Student Records, Disclosure of, 462
Student Services, 16
Student Store, 13
Study List, 24, 45
Add/Drop Courses, 24
Changes to, 24
Engineering, 321
Fine Arts, 386
Letters and Science, 70
Study of Religion (Interdepartmental Program), 68-69, 261
Subject A: English Composition, 33, 152
Sumerian, 226
Summer Session, 10, 43, 50
Sunset Canyon Recreation Center, 15
Supplemental Educational Opportunity Grants, 28
Supplemental Health Insurance, 16
Supplementary Educational Programs, 10
Swahili, 210
Swedish, 176
Syriac, 230
System Science—
Economics (Major), 68, 144
Engineering (Department), 343
Mathematics (Major), 68, 220
Teaching Assistants, 4, 45, 46
Teaching Credential, 130, 363
Teaching English as a Second Language, 152
Television Archives, 9
Tennis Center, Los Angeles, 15
Tests—See Examinations
Theater Arts Department, 15, 307
Theater Arts Library, 8
Theater Major, 308, 309, 310
Thesis, Master’s, 50
Tickets—See Central Ticket Office, 17
Transcript of Record, 61
Transfer of Credit, 50, 60
Transfer Students—
Admission, 22, 23
Credit from Other Institutions, 23, 50
English Composition Information for (Letters and Science), 71
Transfer Summer Program, 37
Transfer to Other UC Campuses, 62
Transportation, 12
Parking Space and Permits, 12
Travel Service (ASUCLA), 13
Tuition for Nonresidents, 26, 47
Turkic Languages, 230
Turkish, 230
Tutorials Program, 37
UCLA Alumni Association, 18
UCLA, History of, 2
UCLA Housing Office, 11
UCLA Parent Toddler School, 17
Ugandan, 230
Ukrainian, 269
U.S. University Research, Education, 6
Undeclared Majors, 32
Undergraduate Admission, 20
Undergraduate Admissions and Relations with Schools, Office of, 20
Undergraduate Degree Requirements, 32, 33, 58
Undergraduate Majors and Degrees, 30-31
Undergraduate Students Association, 13
Units, 58
Required for Graduation, 32, 58
Value per Course, 58, 65
University Elementary School Library, 8
University Extension, 10, 50, 60, 66
University Library System, 7
College Library, 8
University Research Library, 8
Special Libraries, 8
University Minimum Standards for Graduate Degrees, 49, 51
University of California System, 4
Administration, 5
University Oral Qualifying Examination, 51
University-Owned Apartments, 11
University Parents Cooperative Nursery School, 18
University Recreation Association, 15
University Requirements—See Undergraduate Degree Requirements, 32, 33
University Research Library, 8
Upper Division Courses, 65
Urban Design/Urban Planning—See Graduate School of Architecture and Urban Planning, 347
Urban Studies or Organizational Studies (Interdepartmental Program), 70, 282
Urdu, 231
Uzbek, 230
Vedic, 234
Veterans Affairs, 17, 45
Viewing Terminal (Registration), 25
Visiting Scholars, 55
Visitors Center, 3
Volunteer Income Tax Assistance Program, 35
Von Grunebaum, Gustave E., Center, 7
Welsh, 150
Westward, 14
Westwood Village, 3
White Mountain Research Station, 7
Wight Art Gallery, 9
Withdrawal from the University, 62
Women’s Intercollegiate Sports, 15
Women’s Resource Center, 17, 18
Women's Studies (Interdepartmental Program), 70, 283
Wooden Recreation and Sports Center, 15
Work-Study Programs, 29
Xhosa, 210
Yiddish, 175
Yoruba, 210
Yugoslav, 269
Zoology—See Biology, 105
Zulu, 210
How to Reach UCLA

By Automobile:
San Diego Freeway northbound; exit Wilshire Boulevard toward Westwood; left on Westwood Boulevard.
San Diego Freeway southbound; exit Sunset Boulevard; left on Sunset Boulevard; right on Westwood Plaza.

By Bus:
Schedule information is available by calling the following numbers:
Culver City Municipal Bus Line:
837-5211 or 559-8310
Southern California Rapid Transit District:
626-4455
Santa Monica Municipal Bus Line:
451-6445
Catalog Evaluation

This edition of the UCLA General Catalog represents a major departure in format and organization from the previous two-catalog system. We have tried to make this catalog a more effective, more useful publication for you. Please help us evaluate the new UCLA General Catalog by answering the following questions:

(1) □ YES □ NO The catalog is visually pleasing and attracts me to UCLA.

(2) □ YES □ NO The information in the catalog is clearly presented and easy to follow. (If not, which sections are confusing or need clarification?

(3) □ YES □ NO The index seems to be complete. (If not, which entries did you not find?)

(4) Additional information I would have liked to find in the catalog includes:

(5) I use this catalog mainly for information on:

(6) Additional suggestions/comments:

(7) I am a □ high school student, □ UCLA freshman or transfer student, □ UCLA continuing student, □ student at another college, □ high school/community college counselor, □ UCLA faculty/staff member, □ other

Please detach this page from the catalog, fold and staple as indicated, and return it to us at the address on the reverse side. (If you are on campus, please use Campus Mail. Send to Chancellor's Office/General Catalog, 3148 Murphy Hall.) Thank you very much.

OPTIONAL:

Name

Address
2) Fold down so that address is visible.

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 16046 LOS ANGELES, CA

POSTAGE WILL BE PAID BY ADDRESSEE

University of California, Los Angeles
Office of the Chancellor/General Catalog CC-74
3148 Murphy Hall
Los Angeles, CA 90024

Staple here after folding.

1) Fold this portion up.
# Correspondence Directory

**University of California, Los Angeles, California 90024**  
**Main campus telephone (213) 825-4321**

<table>
<thead>
<tr>
<th>Office</th>
<th>Location</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate</td>
<td>1147 Murphy Hall</td>
<td>825-3101</td>
</tr>
<tr>
<td>Graduate</td>
<td>1247 Murphy Hall</td>
<td>825-1711</td>
</tr>
<tr>
<td>Alumni Association</td>
<td>James West Center</td>
<td>825-3901</td>
</tr>
<tr>
<td>Dean of Students</td>
<td>2224 Murphy Hall</td>
<td>825-3871</td>
</tr>
<tr>
<td>Financial Aid Office</td>
<td>A107 Murphy Hall</td>
<td>825-4531</td>
</tr>
<tr>
<td>Graduate Division</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affirmative Affairs Office</td>
<td>1248 Murphy Hall</td>
<td>825-2780</td>
</tr>
<tr>
<td>Fellowship and Assistantship Section</td>
<td>1228 Murphy Hall</td>
<td>825-4129</td>
</tr>
<tr>
<td>Student and Academic Affairs Section</td>
<td>1225 Murphy Hall</td>
<td>825-4226</td>
</tr>
<tr>
<td>Housing Office</td>
<td>78 Dodd Hall</td>
<td>825-4491</td>
</tr>
<tr>
<td>Parking Service</td>
<td>280 GS Structure 8</td>
<td>825-9871</td>
</tr>
<tr>
<td>Registrar’s Office</td>
<td>1134 Murphy Hall</td>
<td>825-1091, 825-3801</td>
</tr>
<tr>
<td>Student Health Service</td>
<td>A2-130 Center for Health Sciences</td>
<td>825-4073</td>
</tr>
<tr>
<td>Student’s Store</td>
<td>B Level, Ackerman Union</td>
<td>825-7711</td>
</tr>
<tr>
<td>Summer Sessions</td>
<td>1254 Murphy Hall</td>
<td>825-8355</td>
</tr>
<tr>
<td>University Extension</td>
<td>10995 Le Conte Avenue</td>
<td>825-9971</td>
</tr>
<tr>
<td>Visitors Center</td>
<td>100 Dodd Hall</td>
<td>825-4338</td>
</tr>
</tbody>
</table>