A WORD FROM THE CHANCELLOR...

As we mark the Golden Year on the Westwood campus, are we celebrating UCLA's age or its youthfulness? Probably both.

Fifty years is a long period in a human life, but it is short in the history of universities, some of which date back to the Middle Ages.

Both youth and age are worth celebrating. In the words of Longfellow, "Age is opportunity no less than youth itself, though in a different dress."

UCLA, though still youthful, is not the same institution that opened its doors at Westwood in 1929; in those fifty years the university has grown rapidly in academic stature and developed into a major force in American education. Further development lies ahead. The university must keep its options open in dealing with changing conditions in society and in the world.

One thing has not changed—the opportunity for a quality education. The major change has been in the increasing richness and diversity of courses and curricula represented by this catalog.

We wish you well as you make your choices among these offerings. May they serve you well in UCLA’s Golden Year.

Charles E. Young

"The University seeks to promote and sustain an environment conducive to sharing, extending and critically examining knowledge and values, and to furthering the search for wisdom."

...from the preface, UCLA Faculty Code
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Acknowledgements
The 1979—1980 edition of the UCLA General Catalog caps a year-long writing and editing effort which involved the active participation of many people on campus.

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Please note
Every effort has been made to insure the accuracy of the information presented in the General Catalog. However, all courses, course descriptions, instructor designations and curricular and degree requirements described herein are subject to change or deletion without notice. You may consult the appropriate department, school, college, or division mentioned in the Catalog for further information.
CALENDAR

Fall '79

First day to file undergraduate application for Fall '80 with admissions officer, 1147 Murphy Hall. (Last day will depend on number of applications received).

Last day to file application for graduate admission or readmission or renewal of application (previously applied but did not register for a regular quarter) with complete credentials and the application fee, with Graduate Admissions, 1247 Murphy Hall.

February 15
In Education for teaching credential.

March 15
In Management, MBA program.

Winter '80

November 1, 1979
July 1, 1979 (open to intercampus transfers only)

October 1
December 30

In Archaeology
Art History
Biostatistics
French
Hispanic Lang & Lit
Linguistics
Luso-Brazilian Lang & Lit
Management, MA & PhD programs
Political Science
Psychology
Public Health
Sociology
Spanish
Theater Arts

Spring '80

October 3, 1979

March 15
In Management, MBA program.

First day for UCLA Student Insurance enrollment.

Registrar mails:

1. Validated Registration cards of Students who paid fees by mail.

2. Tentative Study List datamailer with results of pre-enrollment processing and undergraduate enrollment in person appointment.
<table>
<thead>
<tr>
<th>Event</th>
<th>Fall '79</th>
<th>Winter '80</th>
<th>Spring '80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Examination in English as a Second Language.</td>
<td>September 11</td>
<td>January 2</td>
<td>March 25</td>
</tr>
<tr>
<td>Subject A English Placement Test.</td>
<td>September 12</td>
<td>January 2</td>
<td>March 26</td>
</tr>
<tr>
<td>Chemistry/Mathematics Preliminary Examination.</td>
<td>September 17</td>
<td>January 2</td>
<td>March 26</td>
</tr>
<tr>
<td>QUARTER BEGINS</td>
<td>September 18</td>
<td>January 2</td>
<td>March 26</td>
</tr>
<tr>
<td>Registration in person, 8:00 am to 3:30 pm.</td>
<td>September 18-21</td>
<td>January 2-4</td>
<td>March 26-28</td>
</tr>
<tr>
<td>Financial Aid check distribution to registered students begins.</td>
<td>September 18</td>
<td>January 2</td>
<td>March 26</td>
</tr>
<tr>
<td>Undergraduate enrollment in person by appointment.</td>
<td>September 18-21</td>
<td>January 2-4</td>
<td>March 26-28</td>
</tr>
<tr>
<td>Spanish and Portuguese Placement Examination.</td>
<td>**March 30, '79</td>
<td>**September 21, '79</td>
<td>**January 5, '80</td>
</tr>
<tr>
<td>French Placement Examination.</td>
<td>September 19</td>
<td>January 4</td>
<td>March 28</td>
</tr>
<tr>
<td>Proficiency Examinations for English 3.</td>
<td>September 21</td>
<td>January 4</td>
<td>March 28</td>
</tr>
<tr>
<td>Instruction begins.</td>
<td>September 24</td>
<td>January 7</td>
<td>March 31</td>
</tr>
<tr>
<td>Late registration in person with $25 late fee, 10:00 am to 4:00 pm.</td>
<td>September 24-October 5</td>
<td>January 7-18</td>
<td>March 31-April 11</td>
</tr>
<tr>
<td>Changes in study list without fee, 8:30 am to 4:30 pm.</td>
<td>September 24-October 5</td>
<td>January 7-18</td>
<td>March 31-April 11</td>
</tr>
<tr>
<td>Graduate Study List Card should be filed with major department by 4:00 pm; approved cards due to Enrollment Office by 5:15 pm.</td>
<td>September 26</td>
<td>January 9</td>
<td>April 2</td>
</tr>
<tr>
<td>Last day to file advancement to candidacy petitions for master's degree with Graduate Division, 1225 Murphy Hall.</td>
<td>October 5</td>
<td>January 18</td>
<td>April 11</td>
</tr>
<tr>
<td>Last day to:</td>
<td>October 5</td>
<td>January 18</td>
<td>April 11</td>
</tr>
<tr>
<td>1. File Study List Card without fee.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Change Study List (add, drop) without fee.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Register in person with $25 late fee.</td>
<td></td>
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<tr>
<td>4. File Graduate Leave of Absence with Graduate Division (prorated refund).</td>
<td></td>
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</tr>
<tr>
<td>Registrar mails official Study List to all registered students; if not received in ten days, inquire at 1134 Murphy Hall.</td>
<td>October 8</td>
<td>January 21</td>
<td>April 14</td>
</tr>
<tr>
<td>Last day to (WITH APPROVAL OF ACADEMIC DEAN):</td>
<td>October 19</td>
<td>February 1</td>
<td>April 25</td>
</tr>
<tr>
<td>1. File Study List Card with $10 fee.</td>
<td></td>
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</tr>
<tr>
<td>2. Add courses to official study list, change grading basis and/or unit credit with $3 petition fee.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Drop courses from undergraduate study list with $3 petition fee.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last day to file (without fee) bachelor's Degree Candidate Card with Registrar, Window &quot;A&quot;, Murphy Hall.</td>
<td>October 19</td>
<td>February 1</td>
<td>April 25</td>
</tr>
<tr>
<td>Last day for UCLA Student Insurance enrollment.</td>
<td>October 26</td>
<td>February 8</td>
<td>April 25</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 2</td>
<td>February 15</td>
<td>May 9</td>
</tr>
<tr>
<td>Event</td>
<td>Fall 79</td>
<td>Winter ’80</td>
<td>Spring ’80</td>
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<tr>
<td>----------------------------------------------------------------------</td>
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<tr>
<td>Last day to file removal of incomplete petition ($5 fee)</td>
<td>November 2</td>
<td>February 15</td>
<td>May 9</td>
</tr>
<tr>
<td>with Registrar, Window “A”, Murphy Hall.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Last day for graduates (WITH APPROVAL OF ACADEMIC DEAN) to drop</td>
<td>November 2</td>
<td>February 15</td>
<td>May 9</td>
</tr>
<tr>
<td>courses from study list with $3 petition fee.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last day to file (with $3 fee) bachelor’s Degree Candidate Card</td>
<td>November 9</td>
<td>February 22</td>
<td>May 16</td>
</tr>
<tr>
<td>with Registrar, Window “A,” Murphy Hall.</td>
<td></td>
<td></td>
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<tr>
<td>Last day to submit final drafts of theses to master's committees</td>
<td>November 16</td>
<td>February 29</td>
<td>May 23</td>
</tr>
<tr>
<td>for degrees to be conferred in current quarter.</td>
<td></td>
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</tr>
<tr>
<td>Last day to file completed copies of theses for the master’s</td>
<td>November 26</td>
<td>March 10</td>
<td>May 30</td>
</tr>
<tr>
<td>degree and dissertations for the doctor’s degree to be</td>
<td></td>
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<tr>
<td>conferred in current quarter with Graduate Division, 1225 Murphy</td>
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<tr>
<td>Hall.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Instruction ends.</td>
<td>December 1</td>
<td>March 15</td>
<td>June 7</td>
</tr>
<tr>
<td>Final examinations.</td>
<td>December 3-7</td>
<td>March 17-21</td>
<td>June 9-13</td>
</tr>
<tr>
<td>Quarter ends.</td>
<td>December 7</td>
<td>March 21</td>
<td>June 13</td>
</tr>
<tr>
<td>Filing of applications for graduate fellowships, teaching and</td>
<td>February 15, 1979</td>
<td>consult</td>
<td>consult</td>
</tr>
<tr>
<td>research assistantships tenable at Los Angeles for 1980-1981.</td>
<td></td>
<td>department</td>
<td>department</td>
</tr>
<tr>
<td>Last day for continuing students to file applications for</td>
<td></td>
<td>January 12</td>
<td></td>
</tr>
<tr>
<td>Unofficial copy of quarterly grades available at Registrar's</td>
<td>February 1</td>
<td>May 1</td>
<td>August 1</td>
</tr>
<tr>
<td>Window “A”, Murphy Hall.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic and Administrative Holidays:</td>
<td>July 4</td>
<td>February 18</td>
<td>May 26</td>
</tr>
<tr>
<td></td>
<td>September 3</td>
<td>March 24</td>
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<td></td>
<td>November 22-23</td>
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<td></td>
<td>December 24-25</td>
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<td>December 31</td>
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<tr>
<td></td>
<td>January 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commencement.</td>
<td></td>
<td>June 15</td>
<td></td>
</tr>
</tbody>
</table>

*Tentative dates — consult quarterly Schedule of Classes

**The first date listed for the Placement Test is offered as an option to those students who wish to pre-enroll and who, therefore, need to know in advance where they place.

Note: Anything submitted or requested as an exception to a published deadline will be subject to an additional penalty fee of $10.00.
About UCLA

UCLA has come a long way since it moved from its first home on Vermont Avenue to a campus in the middle of what was then some beanfields out in Westwood.

Back in 1919, when UCLA had its beginnings at the State Normal School on Vermont Avenue downtown, they called it "The Southern Branch" of the University of California at Berkeley. Then came the 1929 move to Westwood. UCLA started growing, on a site that began at 383 acres and then grew to its present 411-acre parcel.

UCLA hasn't stopped growing since. Just a look at the numbers can be staggering: 13 schools and colleges, 170 departments and instruction, 24 research institutes and centers, 18 libraries, 20,000 undergraduates, 11,000 graduate students.

Another Kind of Growth

But, there is another kind of growth that is part of the UCLA tradition. Growth that transforms those numbers into the fabric and feel of UCLA.

A Growth in Excellence

Excellence not only in facilities, but in people. UCLA is consistently rated among the top 10 universities in the country. UCLA professors have won Nobel Prizes, National Academy of Science memberships, Oscars, and Emmys, while its teams have won a collection of NCAA championships.

UCLA has done more than face up to the complex challenge of offering excellence in education. As a public University—a public trust—UCLA also meets a daily commitment to service. The spectrum of contributions UCLA has made in research and scholarship, science and the arts, touches the lives of people every day.

Part of a Plan

UCLA is part of the nine-campus University of California statewide system, a network of resources for knowledge that literally spans the state with field stations, extension centers and other facilities in more than 80 locations throughout California.

The system as a whole is governed by the Board of Regents, who in turn appoint the President of the University, its chief executive officer. Currently the President of the University is David S. Saxon, a former faculty member at UCLA, who also held the post of Executive Vice-Chancellor here. In addition to mapping out budgetary policy and setting the yearly academic objectives for the University of California system, the Board of Regents also appoints (with the advice of Dr. Saxon) Chancellor, Directors and Deans for each campus. The Academic Senate, made up of the faculty and designated administrative officers, sets the conditions for admission and makes rules for the granting of degrees and certificates.

A City Within a City

Another factor that contributes to the climate of excellence at UCLA is diversity. The location of UCLA offers a collection of contrasts. Set in an urban environment, the University is ten minutes away by car from either the Santa Monica Mountains or the Pacific Ocean. On campus, concrete co-exists with open green areas.

Our faculty and student body represent a diversity of backgrounds and points of view; a blend which helps to support an institutional attitude of personal exploration and individual growth.

UCLA and You

You will find that the combination of size and diversity at UCLA present a final set of mutual obligations. UCLA offers unmatched opportunities, but the responsibility to seek out those opportunities rests with you.
If You've Already Chosen
Naturally, if you have already decided on a major, you will begin taking the courses that are required to complete that major.

A Final First Word
Again, the specific major requirements are discussed in two sections in this book: under each college or school later in this chapter of the Catalog, and in the degree each major in the "courses" section. The college or school make the rules governing your major; these rules vary with each school or college.

Degree Requirements
You can find specific college/school regulations in the following pages of this section. Departmental rules cannot. The undeclared student for enrollment and the course description section of this book. General regulations follow.

Grades and Scholarship Requirements
Grades in courses (graduate or undergraduate) are defined as follows: "A," excellent; "B," good; "C," fair; "D," poor; "F," failure; "IP," in progress; and "I," work of passing quality but incomplete. The grade DR (deferred report) is entered on the student's record: a) when the faculty member's knowledge, the student's work is in the course is complete, but the faculty member is not able to assign a grade; or b) when disciplinary proceedings are in progress. The designations "P," passed, and "NP," not passed, are used in reporting grades for undergraduate students taking courses on a passed/not passed basis. Grades "A," "B," "C," "D" (including plus or minus notations where appropriate), "F," "IP," "NP" are final when filed by an instructor in his end-of-term course report, except for the correction of clerical or procedural errors. No term grade except incomplete may be revised by reexamination.

UCLA Grading Regulations
A-306 General
a. The Schools of Dentistry, Medicine, and Law shall adopt their own grading codes for their respective professional programs and these programs are therefore excepted from the provisions of his grading code.

A-307 Grading of Undergraduate Students
a. The level of achievement of all undergraduate students shall be designated in the following terms: A (superior), B (good), C (fair), D (poor), F (fail). I (incomplete), IP (in progress), P (passed), NP (not passed). Grades A, B, and C may be modified by plus (+) or minus (−) suffixes. The passing grades B, C, and D may be modified by plus (+) or minus (−) suffixes.

b. Grade points per unit shall be assigned by the Registrar as follows: A-4, B-3, C-2, D-1, F-zero. Plus grades carry three-tenths grade point more per unit and "minus" grades carry three-tenths grade point less per unit than unsuffixed grades. Subject to the provisions of Senate Regulation 634, courses in which either an S, U, DR, I or IP has been awarded shall be disregarded in determining a student's grade point average.

c. The grades A, B, C, and D denote satisfactory progress toward a degree. The D grade denotes an unsatisfactory performance which would otherwise receive a grade of C or better.

d. A grade of P shall be awarded only for work which would otherwise receive a grade of C or better.

e. A student who has received two NP grades shall not be allowed to enroll in one course each term on a P/NP basis.

A-308 Grading of Graduate Students
a. The work of all graduate students shall be reported in terms of the following grades: A (superior achievement), S (satisfactory achievement), B (satisfactorily demonstrated potential for professional achievement in the field of study), C (passed the course but did not do work of professional quality in the field of study), F (fail), I (incomplete), IP (in progress), DR (deferred report), S (satisfactory), U (unsatisfactory). The passing grades A, B, and C may be modified by plus (+) or minus (−) suffixes.

b. Grade points per unit shall be assigned by the Registrar as follows: A-4, B-3, C-2, D-1, F-zero. "Plus" grades (except A+) carry three-tenths grade point more per unit and "minus" grades carry three-tenths grade point less per unit than unsuffixed grades. The grade A+ carries 4.00 points per unit, the same as for an unsuffixed A; but when A+ is reported it represents extraordinary achievement. Courses in which a student receives an S grade shall be counted in satisfaction of degree requirements, but courses in which either an S, U, DR, IP has been awarded shall be disregarded in determining a student's grade point average.

c. The grades A, B, C, and D denote satisfactory progress toward a degree. A graduate student is subject to dismissal if his cumulative grade point average falls below 3.000.

A-309 The I Grade
a. The grade I may be assigned when a student's work is of passing quality, but is incomplete. The grade I shall only be assigned when the student establishes to the instructor's satisfaction that his work is incomplete for a good cause. For the grade I to be eligible to be replaced by a passing grade, the student must submit a petition and the petition and grade point provided he satisfactorily completes the work of the course by the end of the next full term that he is in residence in regular session following the term in which the I was assigned. The dean of the appropriate school or college has authority to extend the deadline for completion in the event of unusual circumstances that would clearly impose an unfair hardship on the student if the original deadline was maintained.

c. If the work is not completed according to the provisions of Senate Divisional Regulation 309 (B), the grade I shall automatically be replaced with F, NP or U as appropriate.

A-310 The P and NP Grades for Undergraduate Students
a. Subject to the limitations in (C) and (D) below, an undergraduate student in good standing may enroll in one course each term on a P/NP basis.

b. A grade of P shall be awarded only for work which would otherwise receive a grade of C or better.

c. A student who has received two NP grades shall not be allowed to enroll in one course each term on a P/NP basis for the next term in residence.

d. A department or school may designate any course or courses as not to be taken by its major or a P/NP basis, and may at its option require a student, who has received a P in such a course before entering a major, to repeat the course for a letter grade.

e. A student who has not elected the P/NP option in a preceding term may take two courses P/NP.

f. The Council on Educational Development and the Committee on Undergraduate Courses and Curriculum may authorize exceptions to (A) and (E) above when they determine that any course is not consistent with the purpose or design of experimental courses or programs which these committees may approve.

A-312 The IP Grade for Undergraduate Students
a. For courses authorized to extend over more than one quarter and where evaluation of the student's performance is deferred until the end of the final term, a provisional grade of IP (in progress) shall be assigned in the intervening term(s). The provisional grade shall become final if the student completes the full sequence. The Faculty of each school or college and the Graduate Council are authorized to regulate the award of credit in cases where the full sequence is not completed.

b. Authorization for use of IP grades in undergraduate courses shall be by the Committee on Undergraduate Courses and Curricula.

A-313 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:

a. Upon written request of an instructor, provided that a clerical or procedural error is the reason for the change;

b. Upon written request of the Chairman 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 1 and 2 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 chairman. Any grade change made by an instructor who has left the University must be countersigned by the department chairman.

A-314 Repetition of Courses

Repetition of courses other than those authorized by the Committee on Undergraduate Courses or Curricula or the Graduate Council to be taken more than once for credit, is subject to the following conditions:

a. A student may repeat only those courses in which he received a grade of D, F, NP or U. Courses in which a grade of D or F has been received may not be repeated on a P/NP or S/U basis.

b. Repetition of a course more than once requires approval by the appropriate dean in all instances.

c. Degree credit for a course will be given only once, but the grade assigned at each repetition shall be permanently recorded.

d. In computing the grade point average of an undergraduate who repeats courses in which he received a D or F, only the most recently earned grades and grade points shall be used for first 16 units repeated. In the case of further repetitions, the grade point average shall be based on all grades assigned and total units attempted.

A-315 The DR Grade

The grade DR (Deferred Report) shall be entered on the student’s record:

a. When to the faculty member’s knowledge, the student’s work in the course is complete, but the faculty member is not able to assign a grade or

b. When disciplinary proceedings are in process according to the provisions of Divisional Regulation A-306 (C).

The DR shall not itself be calculated in any way in the student’s grade point average. The DR shall be changed to a grade, or perhaps to an Incomplete, only when the Registrar receives a written request from the instructor which indicates that the student has clarified the situation.

The report of the grade DR must be accompanied by a letter from the instructor to the dean of the college or school of the student stating the basis for the action. For students enrolled in a course approved by the Graduate Council, the Dean of the Graduate Division is the dean of Record. For students in a course approved by any undergraduate course committee, the dean of record is the dean of the College or School in which the course is offered. The dean shall establish a date or a specific circumstance terminating the period of the Deferred Report and inform the Registrar, the instructor and the student. Unless changed by the instructor as specified in the preceding paragraph, the DR shall then automatically become F.

Courses

A-320 Special Studies Courses

a. All special individual studies courses for undergraduate students are numbered 199. These courses are structured by the instructor and the student at the time they are initiated. The structure of the course, including both the specific proposed course of study and the requirements that must be met before a grade may be assigned, are those summarized on the standard form “Petition for Enrollment in a Special Studies Course (199).”

b. To register for a special studies course, the “Petition for Enrollment in a Special Studies Course (199)” must be approved both by the instructor in charge and the Chairman of the department (or the head of the relevant interdisciplinary program).

c. Limitations

1) Enrollment requires the consent of the instructor who is to supervise the study. The applicant shall show that his background is adequate for the proposed study.

2) Credit for supervised individual studies in a single term is limited to a maximum of 8 units. Subject to the provisions of Divisional Regulation A-310, the student may take a 199 course on a Passed/Not Passed or a letter grade basis, but the total number of units allowed in individual study courses for a letter grade is 16.

3) At the close of the term, some tangible evidence of work accomplished, signed by the student and the supervising faculty member, shall be filed by the department for an appropriate period of time. The department shall designate the form of the evidence acceptable for this purpose.

4) At the outset of a special studies course (199) the student must complete, and the instructor must sign, a “Petition for Enrollment in a Special Studies Course (199),” which will include the specific proposed course of study and the requirements to be met before a grade may be assigned. The form must have been completed and submitted before a grade can be assigned in the course.

5) To register for 199 and/or 199H, a student must have advanced Junior standing and at least a 3.0 GPA in his/her major field, or he/she must have Senior standing.

6) A student who has an outstanding incomplete in 199 or 199H may not register for another 199 or 199H until the grade of incomplete has been removed.

7) On the advice of the instructor(s) and chairman concerned, the dean of a student’s college or school may authorize exceptions to the limitations listed.

8) Departments may impose additional limitations on the individual study courses.

Final Examinations

A-330

No student shall be excused from assigned final examinations except as provided in Divisional Senate Regulation in A-332 below.

A-332

a. 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 time and places established by the departmental chairman and the Registrar.

b. At the end of the term in which a student is expected to be graduated, his major department may examine him in the field of the major, may excuse him from final examinations in courses offered by the department during that term, and with the approval of the Committee on Courses, assign a credit value to such general examination [Variance 15 June 71].

c. An instructor shall, if he/she wishes, release to individual students their original final examination materials, or a copy thereof, for a period of not less than 13 months after the date of the examination, during which period, students shall have access to their examination.

Repeating Courses

Repetition of courses is subject to the policies of the department offering the course and the following additional conditions:

1) You may repeat only those courses in which you received a grade of “D+”, “D”, “D−”, “F”, “NP” however, the appropriate dean may authorize repetition of courses graded “Incomplete.”

2) Repetition of courses more than once requires approval by the appropriate dean in all instances.

3) Degree credit for a course will be given only once, but the grade assigned at each enrollment shall be permanently recorded. Courses in which a grade of “D+”, “D”, “D−”, or “F” has been earned may not be repeated on a “passed/not passed” basis.

“Incomplete” Grades

The grade “incomplete” may be assigned when your work is of passing quality but is incomplete and you have filed with the instructor a Request for Granting of Incomplete Grade. You must also file a “Petition for Removal of Incomplete Grade” to complete the work in a way authorized by the instructor (fee: $5). Appropriate grade points and units will be assigned upon completion. If the “Incomplete” grade was assigned Fall Quarter 1972 or later and the work is completed by the end of the next quarter you are in academic residence, the grade “I” will automatically be lapsed to a grade of “F.”

It is your responsibility to present a petition to be given an “I” grade to your instructor detailing the reasons why you should be assigned an “I” grade. If the instructor is willing to grant the “I” grade, a contract for the makeup of the “I” is written on the petition form which is signed by you and the instructor. If you neglect to do this, you may receive a non-passing grade in the course. Once the terms of your contract have been met, you must file a Petition for Removal of Incomplete Grade to have the “I” grade changed to the earned letter grade. Under extraordinary circumstances, the dean of your college may grant an extension of time on removal of the “I” grade.

Courses Taken “Passed/Not Passed”

An undergraduate student enrolled in at least a minimal program may take courses on a passed/not passed basis subject to the following regulations:

A) Except as provided in (C), (D), and (E) below, a student in good standing may enroll in one course each quarter on a passed/not passed basis. Courses thus passed shall be counted in satisfaction of degree requirements.

B) A grade of “passed” shall be awarded only for work which would otherwise receive a grade of “C” or better.

C) A student who has received two “not passed” grades shall be excluded from enrolling in a course on a passed/not passed basis for the next term in residence.

D) A department or school may designate any course or courses as ineligible for election by its majors on a passed/not passed basis, and may at its option require a student who has received a “passed” in such a course before changing his major to repeat the course for a letter grade.
(E) A student who has not elected the passed/not passed option in a preceding quarter may take two courses passed/not passed.

(F) With the permission of the dean of your college or school, you may change your enrollment in a particular course from the passed/not passed basis to the regular letter grade basis at any time up to the final date for dropping the course.

**Grade Points**

For purposes of computing scholarship standing, a full course is counted as equivalent to 4 quarter units. Partial or multiple courses are counted proportionately.

Grade points per unit are assigned as follows:

- A+ = 4.0
- A = 4.0
- A- = 3.7
- B+ = 3.3
- B = 3.0
- B- = 2.7
- C+ = 2.3
- C = 2.0
- C- = 1.7
- D+ = 1.3
- D = 1.0
- D- = 0.7
- F = 0.0
- I = 0.0

Grade points per unit are assigned as follows:

- A+ = 4.0
- A = 4.0
- A- = 3.7
- B+ = 3.3
- B = 3.0
- B- = 2.7
- C+ = 2.3
- C = 2.0
- C- = 1.7
- D+ = 1.3
- D = 1.0
- D- = 0.7
- F = 0.0
- I = 0.0

Probationary status can be ended only at the close of the quarter in which the I was assigned. Although this notation appears on the transcript, it is not considered in computing grade-point average. In computing the grade-point average for the quarter in which the I is assigned, a grade of a letter grade is assigned to the course and the grade points for work graded "I" (Incomplete) are excluded from grade-point computations for the quarter in question. An "I" assigned Fall Quarter 1972 thereafter, but not removed by the end of the next quarter you are in residence, will be changed to "F" or "NP" and so included in subsequent unit and grade-point summaries.

You can determine your grade-point average by dividing the number of grade points earned by the number of units attempted. A 2.0 ("C") grade-point average on all work undertaken at the University—all campuses—is required for satisfactory standing as an undergraduate; a 3.0 ("B") average for a graduate.

Courses taken on a passed/not passed or satisfaction/unsatisfactory basis are disregarded in determining grade-point average. In computing the grade-point average of an undergraduate who repeats courses in which grades of "D+", "D", "D-", or "F" were assigned, only the most recently earned grade and grade points shall be used for the first 16 units repeated. In the case of further repetitions, the grade-point average shall be based on all grades assigned and total units attempted. Courses in which a grade of "D+", "D", "D-", or "F" has been earned may not be repeated on a passed/not passed basis.

Students should be aware that external agencies which evaluate student records for the purpose of admission to graduate and professional schools require grade-point average. Students in all undergraduate departments are expected to complete satisfactorily at least 36 units during three consecutive quarters in residence. You will be placed on probation if you fail to pass at least 36 units during three consecutive regular quarters in residence. You will be subject to dismissal if you fail to pass at least 32 units in three consecutive regular quarters in residence.

**Final Examinations**

If a final examination is one of the regular requirements in a course, there can be no individual exemptions. Final written examinations shall not exceed three hours duration and shall be given at the times and places established by departmental chairman in consultation with student representatives.

Re-examinations are permitted only for the purpose of removing the grade "I".

**Undergraduate Degree Requirements**

In working toward a degree, you should keep in mind the various levels on which you must satisfy requirements. College or school and department requirements are discussed fully in this section and in the course catalog. The following are general University requirements for the bachelor's degree.

**Course Credit**

The grades "A", "A-", "B+", "B", "B-", "C+", "C", and "I" (in acceptance courses only) in computing grade-point averages are transferred to the bachelor's degree. The grades "C-", "D+", "D", and "D-" give unit credit toward the degree, but must be offset by grades of "C+" or better in other courses.

**Scholarship**

In order to qualify for a bachelor's degree you must earn at least a "C" (2.0) average in all courses undertaken at the University of California— all campuses.

Candidates for teaching credentials, but not for a degree, must take one of the following courses: History 7A-7B, 151A or 151B, or Political Science 172A or 172B.

An alien attending the University on an "F-1 or J-1" student visa may, by showing proof of temporary residence in the United States, petition for exemption from this State requirement. You can get more information regarding the requirement from the Undergraduate History Counselor, 6248 Bunche Hall.

**Senior Residence**

Of the last 45 units you complete for a bachelor's degree 35 must be earned in residence in the college or school of the University of California in which the degree is to be taken. When translated to the course structure at UCLA this normally implies that nine of the last 11 courses a student offers for a bachelor's degree must be earned in the college or school in which the degree is to be taken.
than 18 of the 35 units may be completed in Sum- mer Session on the campus of residence.

Candidacy for Degree
You should notify the Registrar at least three quar- ters before you expect to receive the bachelor's degree by completing and filing the Degree Candi- date (DC) Card in the quarterly "registration packet." The completed DC card must be filed (even though one or more DC cards were filed at earlier registrations) no later than the tenth day of classes in the quarter in which you expect to complete work for the degree. DC Cards accepted after the twentieth day of classes are subject to a late fee.

Change of College or Major
A change of college (or major) by an undergraduate student requires the approval of the college (or department) to which admission is sought. Applications are made by petition, which may be obtained from the college or school office. No student is permitted to change majors after the open- ing of the last quarter of the senior year.

College of Letters and Science
The College of Letters and Science is the largest col- lege at UCLA. It ranges over more than 60 majors in the human, social, physical sciences, and physical sciences. Its curricula lead to a degree of Bachelor of Arts or Bachelor of Science, normally awarded at the end of the twelfth quarter.

The degree programs are designed to expose stu- dents to a variety of intellectual possibilities by combining a reasonably wide distribution of courses and the opportunity to specialize in one particular field. To this end, students are required to select courses from three divisions: Lower division courses and seminars. They enjoy the same library privileges as graduate students, preferential pre- registration, enrollment, eligibility for honors research awards, and special counseling within the Division of Honors. Admission to the program facilitates tak- ing exceptionally heavy course loads if the student so desires, receiving credit for courses pursued by independent study ("Credit by Examination"), and applying for concurrent work for both undergraduate and graduate degree programs. Students are encouraged to apply for Admission to Honors Status, which is recorded on the student's transcript and a Certificate of Honors awarded upon graduation. Honors with the B.A. will be awarded also as appropriate.

Entering freshmen with both an exceptional grade point average and SAT scores are invited by the Dean, Division of Honors, to participate in the College Honors Program. Other students may apply at least one quarter of study at UCLA and a 3.5 grade point 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, Divi- sion of Honors.

Honors Status
A student in the College of Letters and Science who has demonstrated superior academic achievement is eligible to apply for Honors Status, which is recorded on the student's transcript. Admission may be granted by the Dean, Division of Honors after completion of 16 or more graded units at UCLA with a cumulative grade-point average of not less than 3.5. Continued superior academic achievement is required for remaining in Honors Status.

Application for admission may be made at the Divi- sion of Honors Office, 1331 Murphy Hall, Window 1010.

Honors Status students are under the immediate jurisdiction of the Division of Honors Office, receiving their counseling and other student serv- ices at those offices. Admission facilitates taking excep- tionally heavy course loads (see Study-List Limits), and receiving credit for courses pursued by inde- pendent study (see "Credit by Examination").

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. The departments are responsible for admitting stu- dents to their programs. In the case of these programs, consult the Dean of Division of Honors or the department of your major. (For the possibility of concurrently working for both under- graduate and graduate degrees see Departmental Scholar [Program])

Honors with the Bachelor's Degree
1. Departmental honors and Departmental Highest Honors may be awarded at graduation upon the recommendation of your major department. The recommendation will be made by the student and the Department of your major. For the requirements of the various departments, consult the department concerned.

2. Honors with the Bachelor's Degree will be awarded according to your over-all grade-point average at the beginning of the last quarter of academic work, or, if not then eligible, at graduation. To be eligible for Honors with the Bachelor's Degree, a student must have completed at least 20 courses (80 units) in the University of California. Course work taken on the Education Abroad Program will not count towards Honors with the Bachelor's Degree, effective Fall 1979. The College Committee on Honors is responsible for awarding Honors. The degrees of honors and the requirements for each degree are: Cum laude, an over-all average of 3.4; Magna cum laude, 3.6; Summa cum laude, 3.8. Marginal cases will be decided by the Committee on Honors. Students should be aware that the Committee grants petitions for waiver of these requirements only in extraordinary cases.

3. A list of students who have graduated with Honors with the Bachelor's Degree, Departmental Honors, and Honors with the Bachelor's Degree, are included on the report of the College Honors Program. Each honors student will be awarded a certificate of honors at graduation indicating both the Depart- mental Honors and the Honors with the Bachelor's Degree.

Division of Honors Office (Letters and Science)
The Division of Honors Office provides academic coun- seling and services for approximately one-fourth of the undergraduates in the College of Let- ters and Science. Under its jurisdiction are Regents, National Merit Scholars, Alumni Scholars, and stu- dents on the High School Special Program, the Education Abroad Program, the Departmental Scholar Program, and those students who have qualified for Honors Status and College Honors by demonstrating superior academic achievement at UCLA. Services offered include academic counseling, informal degree checks, petitions, and letters of recommendation to graduate and professional schools. In addition, admission to Honors Status and College Honors facilitates taking exceptionally heavy course loads and receiving credit for courses pursued by independent study.

Organized Majors in the College of Letters and Science
The College of Letters and Science offers the follow- ing departmental majors, which lead to the area of Bachelor of Arts: those followed by an asterisk (*) lead to a degree of Bachelor of Science.

- African Languages
- Ancient Near Eastern Civilizations
- Anthropology
- Arabic
- Astronomy
- Atmospheric Sciences
- Biochemistry*
- Biology*
- Business-Economics
- Chemistry*
- Chinese
- Classics
- Economics
- Economics-System Science*
- English
- English-Greek
Special Program in African Studies

This 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 in African Studies is that people with a firm grounding in one of the established disciplines can make the best contribution to an understanding of Africa and its problems. Thus, the special program in African Studies 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.

The student completing this special program will receive a degree with a major in a chosen discipline and specialization in African Studies. The Chairperson of the Committee in Charge will certify completion of the Special Program in African Studies.

Preparation. The introductory courses listed here in three of the following departments: Anthropology 5A and 5C, Economics 1 and 2, or 100; Geography 1 and 2; History 10A-10B; Linguistics 5; Sociology 1 or 101. Training in Arabic, French, Portuguese or an African language is highly recommended.

Upper Division. The student is required to take a departmental major in the social sciences, or by special arrangement with the Committee Chairperson, in the humanities or arts. In addition, he is 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, you are invited to contact Patricia Eaton, African Studies Center, 10244 Bunche Hall, 825-2944, or Professor Christopher Ehret, History Department, 6265 Bunche Hall, 825-4093.

Special Program in Asian American Studies

The program in Asian American Studies is intended to promote the study of Asian and Pacific peoples in the United States from several disciplines. It 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.

Students may participate in the program by undertaking a course of study which focuses on the special roles and experiences of Asian and Pacific peoples in the United States through a departmental major or the interdepartmental major in East Asian Studies.


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

For more information, you are invited to contact Mr. Ronald Hirano, 3232 Campbell Hall, 825-2974.

Certificate Program in Diversified Liberal Arts

In order to earn a credential to teach in California elementary Schools, a student must complete the Teacher Credential Program in the Graduate School of Education and either earn a satisfactory score on the Common Section of the National Teacher Examination, or complete the Diversified Liberal Arts Program (DLAP) in the College of Letters and Science.

To earn the Certificate in Diversified Liberal Arts, the student must complete all the requirements for the Bachelor's degree in the College of Letters and Science. In addition, the student must complete required and elective courses in four areas: (1) English, (2) Mathematics, and the Physical or Life Sciences, (3) Social Sciences, (4) Humanities, Fine Arts and Foreign Language.

Most of the requirements for one of the areas will be satisfied by the student's major; the student must complete seven courses (28 units) in each of two other areas, and eight courses (32 units) in the fourth area. The student decides in which area to complete the eighth course. A minimum C (2.0) grade point average is required in each of the four areas. Courses in preparation for or on the student's major and in satisfaction of the D requirement may not be taken N/P.

Courses in Divisions outside the major, which are required as preparation for the major, may be applied toward the area course requirements. However, no course may be applied in more than one area. Completion of the Program will satisfy the breadth requirements of the College of Letters and Science. The Dean of the College will certify completion of the Program.

Area 1. English

Composition and Grammar: Required: Two courses: English 120A plus one course in satisfaction of the D requirement. If the student wishes to complete the Area 1 requirements with additional composition and grammar, the courses must be chosen from the following: English 130, Linguistics 1, 2, 100.

Literature: Required: One course from English 10A, 10B, 10C, 112, 113, Humanities 1A, 1B, and all upper division courses in English literature for which the student has the prerequisites. The student may complete more than one course from this list to satisfy the Area 1 course requirement.

Speech: Required: One course from Communication Studies 10, 100, Speech 1, 2, 107, 109. The student 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. Other courses in Mathematics may be substituted for one or more of these with the written approval of the Department of Mathematics and the Dean of the College of Letters and Science.

Physical or Life Sciences: Required: A minimum of 12 units in Physical Sciences and/or Life Sciences, apart from Mathematics. To fulfill the Area 2 requirement, the student may elect courses that satisfy the Physical Sciences or Life Sciences breadth requirements.

Area 3. Social Sciences

History: Required: One course from History 7A, 7B, 151A, or 151B. Other courses that the student may elect to fulfill the total area course requirement are those listed as fulfilling the Social Science breadth requirements.

Area 4. Humanities, Fine Arts, and Foreign Language

Although there are no specific course requirements, courses used in this area must be selected from
these courses listed as fulfilling the Humanities breadth requirements and, in addition, any courses in foreign language and Dance 10A, 10B, 10C: Music 1, 113A, 113B; Theater Arts 118A, 118B, 119.

Students who plan to pursue the Diversified Liberal Arts Program should begin to take courses in their freshman year. Transfer students may petition to have suitable courses completed at other institutions applied to the requirements of this Program.

For further information about the Diversified Liberal Arts Program, you are invited to contact a counselor in the College of Letters and Science, Window #4, 1312 Murphy Hall, 825-3382. For information regarding the Teacher Credential Program in the Graduate School of Education, students should see a counselor in Room 201 Moore Hall, 825-8326.

**Special Program in International Relations**

This program 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 special program. The program is designed to increase the career options of students in this area by adding breadth of emphasis; and (2) students preparing to teach social science in the secondary schools. These students should complete the major department chosen from: Political Science 182A, Sociology 125, Economics 120, Geography 150, Anthropology 160, Psychology 168. (2) One of the following suites of courses, outside the major department: Political Science 180, 182B, 186B; Economics 121, 130, 131, 133, Sociology 124, 154, 155, Geography 145, 146, 152, 156; History 154A-D. Psychology 127, 135, 137A. (3) Internship experience in an urban governmental or community service agency.

**Organizational Studies Specialization.** (1) At least three courses outside the major department chosen from: Political Science 181, 190, Sociology 121, 141, Management 190, Psychology 149. (2) One of the following suites of three courses, outside the major department: Political Science 146, 147, 180; Economics 170, 171, Sociology 124, 140, 152, Geography 148, 163, Psychology 135, 148, 189. (3) Internship experience in a governmental or service organization.

For further information you are invited to contact Professor Robert Fried, 4289 Bunche Hall, 825-4331.

**Special Program in Women’s Studies**

Students completing a bachelor’s degree may petition to receive a Women’s Studies Specialization in addition to a major in their chosen discipline. This program is designed to promote the integration of the study of women into traditional academic disciplines. It is oriented toward the student who wishes to undertake studies in an established discipline with a special emphasis on the roles, contributions, and cultural images of women. At the same time, it is designed to provide a view of women in society from the perspective of several different disciplines. With these purposes in mind, two Women’s Studies courses have been instituted in order to provide a multidisciplinary and a senior colloquium, to be offered by the program. Preparation: Women’s Studies 100, Introduction to Women’s Studies.

**Upper Division**. The political science major should be completed as follows. Political Science 110; any four upper division courses in Field II, International Relations; Political Science 168L, and three additional upper division courses in Field IV, Comparative Government; one additional course from Field I or two additional courses both in Field III, Field V or Field VI.

Other social sciences courses required: Geography 140; Sociology 140; two courses from Economics 130, 111, 112, 180. 190; three courses from History 127A-127C, 168, 152A-152B.

Language requirement: completion of the sixth quarter course for its equivalent, as prescribed by the language department), with a grade of C or better, of any modern foreign language: French 6, German 6, Spanish 25. Russian 6, are most frequently offered in fulfillment of this requirement, but see also 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, you are invited to contact: Ms. Vicki Waldman, 4520 Bunche Hall, 825-3862.

**Special Program in Urban Studies or Organizational Studies**

Students 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. Students with departmental majors should seek advice in selecting an appropriate department. Students interested in the individual major should consult a counselor in the College of Letters and Science.

The requirements for the specializations to be taken in conjunction with the major in the Division of Social Sciences are:

- Preparation: 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 the equivalent. Political Science 1. Psychology 10. Sociology 1 or 101, Geography 4.

**Urban Studies Specialization.** (1) At least three courses outside the major department chosen from: Political Science 182A, Sociology 125, Economics 120. Geography 150. Anthropology 160. Psychology 168. (2) One of the following suites of courses, outside the major department: Political Science 180, 182B, 186B; Economics 121, 130, 131, 133. Sociology 124, 154, 155, Geography 145, 146, 152, 156; History 154A-D. Psychology 127, 135, 137A. (3) Internship experience in an urban governmental or community service agency.

**Organizational Studies Specialization.** (1) At least three courses outside the major department chosen from: Political Science 181, 190, Sociology 121, 141, Management 190, Psychology 149. (2) One of the following suites of three courses, outside the major department: Political Science 146. 147, 180; Economics 170, 171, Sociology 124, 140, 152, Geography 148, 163, Psychology 135, 148, 189. (3) Internship experience in a governmental or service organization.

For further information you are invited to contact Professor Robert Fried, 4289 Bunche Hall, 825-4331.

These are a necessary preparation for a multidisciplinary program and will enable students who desire further training to embark on related graduate study.

Students are required to complete at least eight courses (none of which may be pass/not pass) from the following. Students limited to the Women’s Studies 100, Introduction to Women’s Studies; Women’s Studies 197. Senior Seminar in Women’s Studies, and at least one course from each of two areas outside the student’s major department. Each quarter the Women’s Studies Committee will prepare a list of departmental courses with Women’s Studies content. The core courses of the Women’s Studies Program are offered on a regular basis. Each individual department (Anthropology 151, 163, Education M148/Women’s Studies M148, English M107/Women’s Studies M107, French 158; History 156C-D-E; Philosophy 192, Psychology M165/Women’s Studies M165, Sociology 160) courses offered through the Council on Educational Development (CED) that are on the Women’s Studies list as well as departmental special topic courses and seminars also may be applied to the specialization.

Students are encouraged to declare their specializations in Women’s Studies as early as possible and to discuss with the Director their proposed course of study.

For further information you are invited to contact The Women’s Studies Program, 255 Kirsye, 824-6172.

**Afro-American Studies Major**

The major in Afro-American Studies is designed to provide UCLA students with a program of courses leading to a Bachelor of Arts degree in Afro-American Studies. The major offers an opportunity to obtain a systematic analysis of the experiences and conditions of people of African descent in the United States and elsewhere in the New World.

The curriculum has two fundamental goals. First, it aims to provide a comprehensive introduction to the crucial life experiences of Afro-Americans. Secondly, it seeks to assist students in the development of academic and professional skills which will enable them to assume useful roles in society.

Accomplishing these objectives requires that students in this program assume a significant measure of responsibility for the actual design of their course work, in conjunction with the faculty adviser for the Afro-American Studies program whom candidates for the program should seek out at the earliest date. Upon entering the major and after consulting with the program faculty adviser, students will choose an area of concentration from one of the departments listed below. Four lower division and six upper division courses must be taken within the chosen department. Two additional upper division courses from the approved list must be taken in departments outside of the student’s area of concentration. The Afro-American Studies majors are required to complete two seminars, a junior seminar and a senior colloquium, to be offered by the program.

**Preparation for the Major.** History 10A; four lower division courses in one concentration: African Languages: Anthropology 1A, 1B, 5A, 5C; Economics: Economics 1, 2, 4, Mathematics 3A; English: English 3, 4, Linguistics 1, 2; History: History 6A, 6B, 6C. 108; Philosophy: Philosophy 4, 58, 62; Political Science: Political Science 1, Sociology 1; Economics 1; Psychology 1: Psychology 10, Anthropology 11, Biology 2, and one quantitative course from the list below: Sociology: Sociology 1, Linguistics 1, 119, 120; Ethnicity and Organizational Studies; Women's Studies 197, Senior Seminar in Women’s Studies, and at least one course from each of two areas outside the student’s major department. Each quarter the Women’s Studies Committee will prepare a list of departmental courses with Women’s Studies content. The core courses of the Women’s Studies Program are offered on a regular basis. Each individual department (Anthropology 151, 163, Education M148/Women’s Studies M148, English M107/Women’s Studies M107, French 158; History 156C-D-E; Philosophy 192, Psychology M165/Women’s Studies M165, Sociology 160) courses offered through the Council on Educational Development (CED) that are on the Women’s Studies list as well as departmental special topic courses and seminars also may be applied to the specialization.

Students are encouraged to declare their specializations in Women’s Studies as early as possible and to discuss with the Director their proposed course of study.

For further information you are invited to contact The Women’s Studies Program, 255 Kirsye, 824-6172.
Major in Chicano Studies

This multidisciplinary program leading to the Bachelor of Arts degree in Chicano Studies is designed to provide systematic instruction for liberal arts and pre-professional majors who wish to concentrate study in the Chicano experience. Various courses permit the program to subjects to critical investigation and analysis the Chicano reality: social, economic, educational, historical, political and psychological.

This major is recommended for students who plan to prepare themselves for graduate study as well as students preparing for public service careers. Students are encouraged to spend up to one year in either a service agency in the Chicano community or in a professional research project on the Chicano experience.

For further information, you are invited to contact: Dr. Armstead L. Robinson, 5274 Bunche Hall, 825-1985.

Major in Communication Studies

The major in Communication Studies seeks to provide the student 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. The major draws its resources from the social sciences, humanities, and fine arts. The specialization in Mass Communication centers upon formal and institutional communication systems and the social contexts in which they function. The specialization in Interpersonal Communication centers upon face-to-face communicative interaction in the small group environment. Students selecting the major 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.

For purposes of Breadth Requirements the major in Communication Studies is designed as a major in the Division of Social Sciences.

Preparation for the Major: Communication Studies 10, Linguistics 1, Psychology 1, Sociology 1. Linguistics 2 is required for students who elect to specialize in Interpersonal Communications.

The Major. Required core courses: Communication Studies 100 and 101 and one course from Anthropology 146, Communication Studies 102 or Linguistics 100.


For an application and further information, you are invited to contact: Ms. Marde Gregory, Royce Hall 232, 825-3303.

Major in Cybernetics

This major provides an introduction to general theoretical foundations for information processing, communication, control, and system analysis and is accompanied by complementary studies of models and phenomena, with particular attention to those arising in the life sciences. The major is appropriate preparation for technical employment in cybernetics, and in its roles in biological and health sciences, or for graduate or professional studies emphasizing interdisciplinary research in these fields. Courses in technical cybernetics for the major include the equivalent of System Science (School of Engineering and Applied Science), and accompanying course-work is taken in Biology, Psychology, Linguistics, Mathematics, the School of Medicine, and related disciplines. Options for the major as follows: (1) cybernetics and linguistics; (2) mathematical cybernetics; (3) cybernetics and psychology, emphasizing physiological psychology, perception and learning; (4) cybernetics and biology, emphasizing physiology, cell biology, and the nervous system; (5) cybernetics and premedical studies.

Preparation for the Major. Biology 5 and 7, Chemistry 11A-11B-11L, 11C-11L or 13A-13B; Engineering 10C, or Physics 20C or 21C. (2) Computer Programming. (a) Computer Science 1. Four additional courses selected from Biology 6-6L, 8-8L, Chemistry 21, 23, 25, Mathematics 106A, 108A; Physics 6C, 8B, 8D, 8E, Psychology 10, 41. The major adviser will select suggestions appropriate to the various options; in general, Cybernetics students are encouraged to take one course from the series Biology 6-6L-8L-8L, Chemistry 21-21-23-25, Mathematics 32, and Physics 8 or 6 at some time during their four-year programs.

The Major. One course in group (a) below (Biology 111 is recommended), and eleven additional courses selected from groups (a) through (d) including four courses in group e and five courses in not more than two of groups (a), (b), (d). The groups are: (a) upper-division courses in Microbiology and Biology recommended: Biology 111, 132, (not open to students with credit for Biology 8-8L), 138, 144, 158, 166, 171; (b) Linguistics 100, 103, 104, 120A, 120B, 145, Psychology 122, 123; (c) Psychology 110 through 124, 150, 151; (d) courses in Mathematics numbered 110 and above; (e) courses in System Science numbered Engineering 120 through 129 (some recommended selections: 121C, 122A, 127B, 128D, 128L, 129L); (f) upper-division courses in Electrical Engineering (Engineering 100 and 110 through 119), Biocybernetics (Engineering 196D)

Major in East Asian Studies

This major is designed to meet the needs of students who are not majoring on East Asia; (2) are planning careers which will necessitate knowledge of and/or residence in East Asia; and (3) desire a background in East Asian studies, including courses in East Asian or Asian American community work related to the Asian American.

Preparation for the Major. History 98-9C; Oriental Languages 1A-1B-IC or Oriental Languages 9A-9B-9C or a parallel Cantonese sequence; Oriental Languages 11A-11B-11C or Oriental Languages 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:


2. Five courses selected from the following: any courses in the social sciences listed above under "1" not being used to satisfy that requirement; any upper division courses in the Department of Oriental Languages not being used to satisfy other parts of the Major Requirements; any new upper division courses relevant to Asian American studies (including no more than three CED courses) which may be approved by the Executive Committee of the College on the recommendation of the Advisory Committee; Art 114B, 114C, 115B, 115C, 140C, 140D, 141, 145, 146A-146B-146C, 147A-147B.

3. The prescribed courses in one of the following areas (courses offered to satisfy this requirement will not also satisfy other parts of the Major requirements): (a) Language: Oriental Languages 12A-12B and two other upper-division courses in Chinese; or Oriental Languages 11A-11B and two other upper-division courses in Japanese. (b) Archaeology: Any four of the following: Oriental Languages 14A, 14B, 14C, 14D, 14E, 175A, 175B; (c) Geography: Geography 132 or 183, 186, 188, 189, and two additional upper-division Geography courses. (d) History: Four upper-division or graduate courses relevant to East Asian or Asian American studies. (History 182A-C. 183, 184, 187A-C, 190A-B, 197 when in the East Asian field, 214). (e) Political Science: 7, Political Science 115*, and three courses selected from the following: Political Science 135, 136, 159, 160, 161, 197 when in the East Asian field. (f) Sociology: Sociology 124* and three courses selected from the following: Sociology 113*, 126*, 134*, 151*, 154.

*Courses so marked have prerequisites which are not included among the courses mentioned here.
Major in Economics-System Science

This major is an alternative to the regular departmental major in Economics, and combines work in the Department of System Science (School of Engineering and Applied Science) with preparation in economic theory and in those aspects of mathematics and statistics that are necessary for the study of quantitative-aspects of economics and systems theory. The major is appropriate for students who plan graduate study with emphasis on such areas as economic theory, mathematical economics, econometrics, feedback and control systems, optimization, and other techniques, as well as preparation and analysis of various economic systems.

Preparation for the Major. Economics 1 and 2, Engineering 10C or 105; Mathematics 31A-31B-31C, 32A-32B-32C, 60.

The Major. Fourteen upper division courses are required consisting of six courses in Economics, six courses in System Science, and two courses in Mathematics. Selections must include: Economics 101A, 101B, 102, and one from Economics 144, 145, 146, 147, Engineering 128A, 129A, and one from Engineering 121C, 122A, 127B, 128A; Engineering 120A or Mathematics 150A or 152A; at least one from Engineering 120B, Engineering M120C/Mathematics M151, Mathematics 150B, 152B. System Science selections are made from courses numbered Engineering 120A, 120B, 120C, 121C, 122A, 122B, 124A, 127B, 128A, 128D, 128L, 129A, 129L.

For purposes of the College breadth requirements, this major is considered to be in the division of Physical Sciences. Economics-System Science majors may not offer courses in Economics as breadth courses in the Social Sciences.

For further information, you are invited to contact Departmental Scholar Program, 10343 Bunche Hall, 825-9000, or the Economics-System Science major or the Mathematics major, 10343 Bunche Hall, 825-4700.

Major in Latin American Studies

This major is an alternative to the regular departmental major in Latin American Studies, and combines work in the Department of Latin American Studies with preparation in the principal disciplines of Computer Science, including theoretical foundations of computer science, methodology of computing, computer system design, programming languages and systems, and computer applications. The Mathematics Department can arrange advising appointments and provide current information on changing requirements. The major leads to the Bachelor of Arts degree.

Preparation for the Major. Mathematics 31A, 31B, 31C, 32A, 32B, 32C, Physics 8A, 8C or Physics 6A, 6B, Engineering 10C, Computer Science 20, and 30. Students who take Physics 8A, 8C are urged to take Physics 8B.

The Major. Fourteen courses, as follows. (1) Mathematics 110A, 115, 150B or 152A. (Normal order: 115, 110A, 150B or 152B.) (2) Four additional courses in Mathematics numbered 110 or more. (Suggested: 113, 114, 140A, 140B, 142, 144, 150B or 150A, 153.) (3) Computer Science M123B (Engineering M123B), 131, 141, 151A and 152A, 151B and 152B. (Recommended order for Engineering students: M123A with 151A, 151B with 152B; recommended order for Software: 131, 141, M123A and 152B or laboratories counting 1/2 course each.) (4) One additional course chosen from Engineering 120B, Mathematics 111A, 112A, 112A, 121A, 121A, 127B, 128A, 128D, 128L, 129A, 129L. Credit will not be allowed toward the major for both Mathematics 140B and Computer Science M122A. Management 210A may be substituted for Mathematics 144.

Students with 90 units or more as of September 1972 are exempt from Computer Science 30.

Minimum Standards. Each course taken in preparation for the Mathematics-Computer Science major and in the major itself must be completed with a grade of C- or higher. Students who do not receive a D or a F the first time they take a course must repeat the course. If a D or F is received the second time, they may not remain in the major unless they petition to do so and the petition is approved.) Furthermore, each student in the major must maintain an average of 2.0 or better in upper division Mathematics courses in the major and a 2.0 or better in the upper division Computer Science and Engineering courses in the major.

Students with 60 or more quarter units of college credit will not be admitted to the major unless they have completed one year of calculus and one computer programming course and meet the same minimum standards listed above for college-level mathematics and computer science courses completed prior to entrance. This examination is given after transfer students and to continuing UCLA students not already in the major.

Transfer students admitted to the Mathematics-Computer Science major should consult an advisor for the major at the earliest opportunity.

Students with substantial knowledge of programming language from Computer Science 101 or 102 by passing a special placement examination. This examination is given during registration week each semester by the Computer Science Department. Students seeking exemption from other courses should consult a mathematics-computer science advisor.

Department Honors in Mathematics-Computer Science will be awarded at graduation to those students who (a) have been admitted to the Mathematics-Computer Science major, (b) have completed a suitable special project or participating seminar as part of the program, and (c) at graduation, have a GPA of at least 3.6 in upper-division mathematics and 3.6 in upper-division Computer Science and Engineering courses in the major. Students may apply for admission to the program after having completed at least two upper-division courses in Mathematics and Computer Science and Engineering courses in the major. Application forms and further information can be obtained at the Mathematics Undergraduate Office, Mathematical Sciences 6356.

The Departmental Scholar Program is available to interested and qualified students who wish to work towards a Master's Degree in either Mathematics or Computer Science. See Departmental Scholar Program.

For further information, you are invited to contact Sally Yamashita, Mathematical Sciences Building 6356, 825-4701.

Major in Mathematics-System Science

This major is an alternate to the regular departmental major in Mathematics, and combines work in the Department of System Science (School of Engineering and Applied Science) with thorough preparation in mathematics, including those aspects necessary for the study of systems, information, and control. The major is appropriate for students who plan graduate study in mathematics, applied mathematics, or engineering, with emphasis on mathematically based research relevant to fields such as signal detection, computation, control, operations research, optimization, stochastic processes, system analysis.

Preparation for the Major. Mathematics 31A-31B-31C, 32A-32B-32C, 60, Engineering 10C, Physics 8A or 8C or 6B. Upper division courses transfer students who have not had the opportunity to enroll in Mathematics 60 may substitute Engineering 127B by petition in which case, Engineering 127B may not be applied on the major.

The Major. Thirteen upper division courses as follows: (1) Mathematics 140A and 5 additional mathematics courses number between 110 and 199, (2) Five courses in System Science selected from Engineering 120 through 129 and 199C, (3) One course, either in System Science selected from the list in (2), or in Computer Science, (4) One additional upper division course in Biology, Chemistry, Economics (numbered 101 or above), Mathematics (numbered between 110 and 199), Physics, or Psychology, (5) Physics 8B, Computer Science 10, and Engineering 125L (formerly 172A) credit will not be allowed towards the major for both courses. One of the thirteen courses must be either Mathematics 150A or Engineering 120A. (Credit will not be allowed towards the major for both.)


For further information, you are invited to contact Ms. Sally Yamashita, Mathematical Sciences Building 6356, 825-4701.

Major in Near Eastern Studies

This major is designed primarily for the following students: (1) those 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 work in the various disciplines pertaining to the Near East. Selection of courses should be decided partly by the student's own special objectives except that the study of Near Eastern Language must be maintained in both lower and upper division.

Preparation for the Major. The first year course in Arabic, Armenian, Hebrew, Persian or Turkish; candidates must also obtain a reading proficiency in English, French, German, Italian, Russian or Spanish as demonstrated by the completion of six quarter courses or their equivalent in the language of their choice. Candidates may substitute for the European
courses in one of the following languages: Ancient History 193D; courses selected from the following: Ancient Near East 130; Egyptian or Akkadian.

The program requires one year of language study in Arabic, Armenian, Hebrew, Persian or Turkish; (2) History 106A-106B, 108A-108B, and two additional courses in the history of the Near East which are related to the major language; (3) four courses (two of which must be in the same discipline) from: Anthropology 110, 123; Art 101D, 104B-104C-104D; Economics 110, 111, 112, 190; Geography 18B, 18E, 18F, 132A, 132B; History 170, 186, 189; Sociology 132, 133. This program may be modified in exceptional cases with the permission of the adviser.

For further information, you are invited to contact: The Von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, 825-1181.

**Major in Study of Religion**

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 of mankind and thus to an appreciation of the very nature of religious experience 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 religious tradition for study at greater depth. Cohesion and integrity in the program are furthered by some 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 the student's 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.

It is hoped that in the future a group of courses will be added to the nine groups of the present program to allow for a concentration of sociological and philosophical problems of religion.

**Preparation for the Major.** Anthropology 22; Philosophy 175; History 150A-C; The major requires a minimum of 13 upper division courses and three related courses in foreign language. These must include: History 193A or 193E; Anthropology 140 or 144; two of the following: Philosophy 175, 191, 193, 195.

In addition a student is to select one of the following groups as his main area of study and is to take 3 courses in that main area, and 3 related courses in foreign language as indicated below. (The language courses are usually two 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 in the program. Another language pertinent to the student's main area may be substituted with the consent of the committee in charge of the program. Among these languages are Hittite, Latin, Old French, Foreign, Persian, Armenian, French, German, Irish, Welsh.)

**Group 1: Ancient Near East and Eastern Europe.** Three courses selected from the following: History 193D; Ancient Near East 130, 150A, 150B, 150C, 170; Indo-European Studies 131, 132; Iranian 170. Three courses out of the following languages: Ancient Egyptian or Akkadian.

**Group 2: Indo-European Traditions.** Three courses selected from the following: English M111D, M111E; History 193B; Classics 140; Scandinavian Literature 141; Iranian 170; Slavic M179. Three courses in one of the following languages: Sanskrit, Latin, Greek.

**Group 3: Greece and Rome.** Three courses selected from the following: English 161, 162, 166A, 166B; History 197; (Roman History: Christianity and Imperial Rome). Three courses in one of the following languages: Latin or Greek.

**Group 4: Israel and Judaism.** Three courses selected from the following: English 108A; History 191A-191B, 193B, 193E, 193F; Hebrew M170A-C; Ancient Near East 170, 171. Three courses in Hebrew.

**Group 5: Christianity.** Three courses selected from the following: Philosophy 105, 106; English 108B; History 110; 112A, 112B, 112C, 112D, 113B, 125B; History 170, 172; Classics M170A. Three courses in one of the following languages: Latin or Greek.

**Group 6: Islam.** Three courses selected from the following: Philosophy 104, History 106A, 107A-107B; Arabic 150A-150B; Three courses in Arabic.


**Group 8: Far East.** Three courses selected from the following: History 193C; Oriental Languages 172A-172B, 173, 174. Three courses in one of the following languages: Sanskrit, Chinese, Japanese.

**Group 9: Traditional and Non-Literate Cultures.** (Choose A or B)

A. Three courses selected from the following: Anthropology 107A-107B; Linguistics 150A-150B. Three courses in a language chosen in consultation with an instructor in this area.

B. Three courses selected from the following: Anthropology 105A, 108, 207, M257; Folklore and Mythology M111, M123A, M129, M125, M129, 130. Three courses in a language chosen in consultation with an instructor in this area.

The student will select six courses in traditions chosen from at least two Groups outside his main area of study, excluding foreign language courses.

**Honors Major.** Honors in the interdepartmental major, not the departmental major, is granted to exceptional students with an opportunity to do independent research under the tutorial guidance of a faculty member associated with the interdepartmental program in the Study of Religion. A student admitted as an Honors candidate in the spring of his junior year should take three 199 courses under the guidance of the sponsoring professor. These courses will be taken in the student's senior year and will count as part of the regular requirement of sixteen upper division courses. Honors culminates in an Honors Thesis which the candidate should be capable of defending before his or her sponsoring professor and at least two members of the Committee in Charge of the Major.

In order to qualify for admission students should have a minimum grade point average of 3.4. They should consult the sponsoring professor of their choice and with his or her approval make their desire known to the Committee in Charge of the Major. They should do so preferably before the end of their junior year, and no later than the beginning of their senior year. 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, you are invited to contact the Department of Philosophy, 321 Dodd Hall, 825-4641.

**About a Major in the College of Letters and Science**

Choosing an area of academic specialization from the long list of majors described in the previous ("An Introduction") section is one of the most important decisions you will make at UCLA. Any student with 90 or more units towards a degree must declare a major. If you have already declared your major—or are about to declare it—you can skip this section, picking up again at "Regulations".

**Entering Students**

If you are a freshman, you may be a bit uncertain about your specific academic goals. Many entering students do not specify a major, preferring instead the "undeclared major" route.

Students who have not declared a major often take introductory courses in the natural sciences, social sciences and the humanities as a way to search for the area that most excites their interest.

Then, once you change to a major you will probably find that some of the courses you have sampled will count toward fulfilling breadth requirements.

**Continuing Students**

If you are heading for the 90-unit limit, and have still not declared a major, you should file a "petition for declaration of major" with the College Office if you receive favorable recommendation from either the department or committee which governs the major.

**Help**

You can get a variety of help with academic planning—setting goals and getting to them—from the College of Letters and Science office in 1312 Murphy Hall (telephone 825-1965 or 825-1761) the Psychological and Counseling Services Center in 3334 Murphy Hall (telephone 825-4071) and the Placement and Career Planning Center located just south of Powell Library (telephone 825-2981).

Also, most departments have faculty members and counselors who are available to discuss in detail the offerings in their specialization(s).

Printed resources to help you are listed at the end of this section; you will also find sources of academic assistance in the "academics: resources to help you" section of this Catalog.

**Regulations Governing the Major**

A major shall consist of not less than nine (36 units), nor more than 15 (60 units) upper division courses, except that 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.

There are three categories of majors in the College of Letters and Science: departmental, interdepartmental or individual.

**Departmental and Interdepartmental**

A departmental major consists of a group of coordinated upper division courses, of which at least six courses are in one department, set up and supervised by a department.

An interdepartmental major consists of at least 13 coordinated upper division courses, of which not more than eight are in one department, set up and supervised by a committee appointed by the Executive Committee of the College. A student who has been away from the University for several terms should consult with his major department or curriculum adviser concerning the major requirements under which he will graduate.

**Individual Major**

A student who has some unusual but definite academic interest for which no suitable major is offered at the University of California and who has completed at least three quarters of work (a minimum of nine courses) in the University with a
grade-point average of 3.4 or higher may, with the consent of the Dean of the College and with the assistance of a faculty advisor appointed by the Dean, plan an individual major.

The individual major must be submitted to and approved by the Dean of the College no later than the first day of the second quarter before intended graduation. Your request should be accompanied by a statement defining the purposes of the major and its relation to your goals, and explaining the reasons why the program cannot be accepted within some existing major. There must be an accompanying statement from a faculty advisor indicating that there has been significant faculty consultation concerning the program. The faculty advisor should be a regular member of the faculty of the College of Letters and Science, with a professorial title in a department that offers a major in the College.

Each request for an individual major should list the course numbers and titles in the preparation for the major and in the major itself, including an indication of the relevance of each course or group of courses to the program. The major should consist of at least twelve and not more than fifteen upper-division courses, a majority of which are in departments offering a major in the College.

The major may not include any courses taken on a P/NP basis. CED and other experimental courses may not be used as part of a major.

A senior thesis is required of each student with an individual major. An outline of the thesis, worked in consultation with faculty in the major, must be submitted to the Division of Honors Office no later than the first week of the second quarter before graduation. The faculty adviser will pass final judgment on the thesis. A copy of the thesis must be filed in the Division of Honors Office. The Dean must certify that you have completed the requirements of your major, including completion of the thesis, before the degree is granted. The title of the major will not appear on the student's official transcript, but will be entered in the memoranda column on your official transcript. The major will be indicated on the diploma as Individual Field of Concentration.

Further information about the individual major may be obtained at the Division of Honors Information Window or from one of the Division of Honors counselors.

Double Majors

Students in good standing who are sometimes permitted to have a double major, consisting of two departmental majors in this College, provided they can be completed within the maximum limit of 208 units. Double majors in the same department with very few exceptions are not allowed.

If a student is majoring in two departments, the student must complete one major before starting the second major. The major in the second department will be the major for which the student will be advised by a representative of the College.

Major and minor combinations must be approved by the Dean of the College. Certain majors may be unavailable. A change of major may be denied if all preparatory courses have not been satisfactorily completed. Some Departments have established specific grade requirements on courses taken in preparation for the major. A student on probation may not normally change his major. No change of major will be permitted after the opening of the student's last quarter. Each student who has declared a major shall be advised by a representative of the Department or committee before enrolling in classes.

Students who fail to attain a grade-point average of at least C (2.00) in work taken in the prerequisites for the major, or in the major itself, may, at the request of the faculty adviser, be denied the privilege of enrolling or of continuing in that major. You must attain an average grade of C (2.00) in all courses undertaken in your major.

Requirements for the Bachelor's Degree

The degree of Bachelor of Arts or Bachelor of Science will be granted upon the following conditions:

1. The candidate shall have completed for credit 45 courses (180 units), of which at least thirteen courses (52 units) shall be upper division courses (numbered 100-499).

The following Credit Limitations apply for all students enrolled in the College.

a) After completing 26 and 3/4 courses (105 units) toward the degree (in all institutions attended) the student will be allowed no further unit credit for courses completed at a community college.

b) No more than one course (4 units) in Kinesiology 1, 2, and 53, and no more than two courses (8 units) in 300 and 400 courses may be counted toward the bachelor's degree. (Transfers with credit for more than 4 units of Kinesiology 1 should be aware of the 4-unit limit on this credit.)

c) Credit is not granted for X300 and X400 courses taken in University Extension unless the approval of the Dean has been obtained by petition prior to enrollment. Such petitions are rarely granted.

d) No more than 12 units of Dance 70, 71, 170, and 171 and Music 80 and 81 taken at UCLA may be counted toward the bachelor's degree. Letters and Science students electing to take these courses must enroll in these courses with Pass/Not Pass. The Music courses are limited to one per student per quarter. These courses will not be counted in the limits on Pass/Not Pass enrollment. (N.B. such courses are excluded from the Letters and Science List.) For further information on these limits, see Courses Taken Passed/Not Passed.

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

(i) Advanced Placement Test Credit (AP) earned after June 30, 1974, will not apply toward a degree in the College, except for students at the freshman level with not more than 36 units of credit already earned toward the bachelor's degree at the time of the examination.

(a) Not more than 24 units of credit in Aerospace Studies, Military Science, or Naval Science may be applied to the 180 unit minimum required for the Bachelor's degree.

(b) Senate regulations limit the undergraduate student to two courses (8 units) of credit per quarter in specialized independent study courses. The total number of units allowed in such courses for a letter grade is 16. Also, see specific restrictions under each departmental listing.

(c) For students entering Fall 1978 and thereafter and effective with Chemistry 2 taken Fall Quarter 1978 or thereafter (at UCLA or another institution), no credit will be granted toward the bachelor's degree for Chemistry 2 after one year of high school chemistry completed with grade C or better. Students enrolled in UCLA prior to Fall 1978 may take Chemistry 2 with full unit and grade point credit, without petition.

For students entering Fall 1978 and thereafter and effective with foreign language courses taken Fall Quarter 1978 or thereafter (at UCLA or another institution), no credit will be granted toward the bachelor's degree for courses equivalent to quarter level 1 and/or 2 if the equivalent of course level 2 years of the same language was completed with satisfactory grades in high school. The maximum deduction will be eight units.

Students enrolled in UCLA prior to Fall 1978 may repeat high school language with full unit and grade point credit, without petition.

A student in Letters and Science who is enrolled in fewer than 12 units may select the pass/no pass option for that term.

No credit will be allowed for more than one lower division course in statistics or for more than one sequence of such courses. (Exception: Mathematics 50A followed by Economics 40.)

A student participating in the Education Abroad Program may receive toward the Bachelor's Degree a maximum of 48 units of credit plus the 8 units allowable for the Intensive Language Program.

1. The candidate shall have attained at least a "C" (2.00) grade-point average in all courses under taken in this University. A student is required to satisfactorily complete all the limits for the bachelor's degree. A maximum of 208 units is allowed. After having credit for 208 units, he will not be permitted to continue, except in rare cases approved by the Dean.

2. The candidate shall have completed the general University and College requirements.

3. The candidate shall have met the University requirement in American History and Institutions.

4. The candidate shall have satisfied the requirements of a major (including preparation for the major) in the College of Letters and Science. Before the degree is granted, the department or committee in charge of the student's major must certify that the student has completed the requirements for the major.

5. Of the last 68 units completed for the bachelor's degree, 36 must be earned in residence in the College of Letters and Science on this campus. No more than eight of the 36 units may be earned in a Summer session on the Los Angeles campus.

While registered in this College you must complete at least six upper division courses (24 units), including four courses (16 units) in the major. In departmental majors, the department will specify how many of these four required courses shall be taken in the department. This residence regulation applies to all students, including those entering this University from statistics or from University Extension and those transferring from other colleges of this University. Students transferring from a College of Letters and Science on another campus of the University may petition for an exception to this rule.

Concurrent enrollment in courses offered by University Extension (including correspondence courses) or at other institutions is not permitted except in extraordinary circumstances, and no credit will be given for such courses unless the approval of the Dean has been obtained by petition prior to enrollment.

The degree of Bachelor of Arts shall be granted to all candidates who qualify for the bachelor's degree, except that the degree of Bachelor of Science shall instead be granted to candidates who have completed such majors as the Executive Committee of the College may designate as leading to that degree.

Subject to final approval of the Statewide Assembly on 6/6/79.
Minimum Progress

Effective Fall 1974, an undergraduate student in the College of Letters and Science who does not pass at least 36 units during any three consecutive terms shall be placed on probation, and an undergraduate student who does not pass at least 32 units during any three consecutive terms shall be subject to disqualification from further registration at the University. Courses bearing solely a letter designation may be used to meet this requirement only during the first three quarters of residence. Petitions for exception to these requirements must be approved by the Dean and may be granted only on account of poor health or of regular outside occupation requiring half-time or more.

Letters and Science Course List Requirement

Beginning Fall 1978, at least 160 units, including 52 units in upper division courses offered for the Bachelor's degree, must be selected from the Letters and Science List of courses. Any course not included on this list, but required or accepted as part of a major shall, for students offering that major at graduation, be treated as if it were on the list. This rule generally applies to all students who have successfully completed less than 36 quarter units prior to Fall Quarter, 1978.

Courses are applicable only if taken during a year in which they appear on the list. Courses offered for "no credit" and those numbered above 199 are automatically excluded.

All undergraduate courses in the College of Letters & Science may be applied except:

- English 136A-B-C
- Journalism 101A-B
- Mathematics 1A, 38A-B, 104

The following courses in departments outside the College of Letters & Science are applicable:

- Architecture and Urban Planning 190, 191, 192
- Art 50 through 56, 101A through 122
- CED courses that are formally cross-listed with Letters and Science Departments.
- Dance 111A-B-C, 140A-B-C, 151A-B
- Education 100, 102, 112, 125, 147
- Freshman and Sophomore Professional School seminars—consult the College of Letters and Science concerning applicability.
- Public Health—All courses except 102A-B, 119A-B, 130A-B, 131, 135
- Theatre Arts—Theatre 5A-B-C, 101 (2 units), 102A through 105; M.P.T.V. 106A-106B-106C-106D-106E.

General University and College Requirements

Unless your chosen major demands unusually heavy work in lower division courses, it will be to your advantage to complete these requirements as soon as possible—normally within your first 24 courses (96 units).

“Subject A”

All students are required to demonstrate proficiency in the fundamentals of English composition (Subject A). Students from other countries whose native language is not English will be instructed by the Office of Admissions to take the Entrance Examination in English as a Second Language and therefore are not required to meet the regular Subject A requirement. For further regulations concerning Subject A, see "degree requirements" later in this section.

American History and Institutions

You can find details about this requirement under "degree requirements" earlier in this section of the Catalog.

Foreign Language

The College of Letters and Science does not have a college-wide requirement for foreign language. Students should consult this catalog and departments or committees administering curricula concerning the requirement of specific majors. Credit will not be allowed for completion of a more advanced course in grammar and/or composition.

For students entering Fall 1978 and thereafter and effective with foreign language courses taken Fall Quarter 1978 or thereafter at UCLA or another institution, no credit will be granted toward the bachelor’s degree for college foreign language courses equivalent to quarter level 1 and/or 2 if the equivalent of course level 2 years of the same language was completed with satisfactory grades in high school. The maximum deduction will be eight units. Students enrolled in UCLA prior to Fall 1978 may repeat high school language with full unit and grade point credit, without petition.

College credit for the mother tongue of a foreign student and for its literature is allowed only for courses taken in native institutions of college grade, or for upper division and graduate courses actually taken at the University of California or at another English-speaking institution of approved standing.

English Composition

You may satisfy this requirement with one course from English 3, 4, Humanities 2A, 2B, or CED 3. (Students may not receive credit for both English 3 and CED 3.) A grade of "C" or better is required; grade of "P" does not apply. A course in English Composition taken for a "Pass" grade does not satisfy this requirement. Courses in the above group may be applied on the Humanities breadth requirements if they are not used to satisfy the English Composition requirement.

The composition requirement may also be satisfied with a score of 4 or 5 on the CEEB Advanced Placement Test in English, or by passing a proficiency examination in English Composition set and administered by the Department of English. To be eligible for this proficiency examination an entering student must have a score of 660 on the CEEB English Achievement Test. Each student should satisfy the composition requirement before having completed 30 quarter units. Students should do so must have their study lists approved by the Dean.

Special Regulations for Transfer Students

If you have completed an English Composition course graded "Pass" you may take the English Proficiency Examination upon presentation of a letter of authorization to the English Department. The letter may be obtained from the College of Letters and Science.

Transfer students who have completed with grade "C" or better a college composition course that has not satisfied the English Composition requirement in English composition may be eligible for the proficiency examination after an interview by the English department. Eligible students must register for the examination in the English Department office prior to the first day of enrollment in each quarter.

If you have credit for 90 or more units and have not completed a course that satisfies the College of Letters and Science requirement in English composition, but are exempt from the Subject A requirement you must include an acceptable composition course in the study-list of your first quarter of residence in the College. If you are required to take the course in Subject A you should, upon completion of that requirement, include an acceptable composition course in the study-list of your second quarter of residence in the College.

A bona fide student from abroad, who has learned English as a foreign language and in whose secondary education English was not the medium of instruction, may satisfy this requirement by completing English 33C with a grade of "C" or better. If you have completed English 33C it is not required, the student from abroad must take either English 3 or 106 to satisfy the composition requirement.

Units evaluated by the Office of Admissions as English Composition but not sufficiently advanced to satisfy the College of Letters and Science requirement, can be applied on the Letters and Science breadth requirements as Humanities only if specifically approved by the Dean. Advanced Placement English with Grade 3 has such approval and students bear no petition by the student ESL 33A-33B-33C and advanced standing English for Foreign Student courses may not be applied on the Humanities Division.

Breadth Requirements

Breadth requirements are designed to acquaint you with areas of inquiry outside your own major. They provide a unique educational opportunity to bring perspectives from many fields together in a unified approach to learning.

Effective Fall 1978, students with less than 36 quarter units completed must meet the following Breadth Requirements. Those who have completed 36 or more units may choose to meet either these new requirements or the old requirements (described later in this section).

You will satisfactorily complete nine courses (36 quarter units) distributed among the three divisions outside the division of your major with at least two courses in each division. Acceptability of courses for these requirements are subject to the following general conditions:

(a) All language courses level 4 or above may be applied as Humanities requirements. Level 1, 2, and 3 courses may be used, provided that you have completed the level 4 course in the same language. Conversational courses may not be used to satisfy the Humanities requirement.

Breadth Requirements credit for courses in languages which do not offer level 4 courses is contingent on completion of the highest level offered.

(b) The course used to satisfy the English Composition Requirement may not also apply on the Breadth Requirements.

(c) Courses required to satisfy the Major or other courses taken in major department may not be used to satisfy Breadth Requirements. However, courses outside the division of the major which are required as preparation for a major may be used to satisfy these requirements.

(d) Courses in other colleges and schools at UCLA may be used to satisfy the Breadth Requirements, if so designated by the Executive Committee of the College.

(e) Freshman and Sophomore seminars taught in departments in the College of Letters and Science may be used to satisfy Breadth Requirements in other Colleges and professional schools may apply only by petition.

Transfer students should consult the College of Letters and Science concerning application of advanced standing courses on the breadth requirements.
Consult individual course descriptions to avoid possible duplication of courses. Courses numbered in the 300 and 400 series may not be applied on the breadth requirements. Courses numbered 199 and in the 200 series may be applied on breadth requirements only by petition approved by the Dean of the College of Letters and Science.

You can determine which—and how—UCLA courses apply to your breadth requirements by studying the list of courses (E through H) below.

For the purposes of these requirements, departmental and interdepartmental majors are classified in the following divisions.

**Humanities**
- African Languages
- Ancient Near Eastern Civilizations
- Arabic
- Chinese
- Classics
- English
- English-Greek
- English-Latin
- Ethnic Arts
- French
- French and Linguistics
- German
- Greek
- Hebrew
- Italian
- Italian and Special Fields
- Japanese
- Jewish Studies
- Latin
- Linguistics
- Linguistics and Computer Science
- Linguistics and English
- Linguistics and French
- Linguistics and Italian
- Linguistics and Oriental Languages
- Linguistics and Philosophy
- Linguistics and Spanish
- Near Eastern Studies
- Philosophy
- Portuguese
- Scandinavian Languages
- Slavic Languages
- Spanish
- Spanish and Linguistics
- Study of Religion

**Physical Sciences**
- Astronomy
- Atmospheric Sciences
- Biochemistry
- Chemistry
- Cybernetics
- Economics-System Science
- General Chemistry
- General Physics
- Geology
- Geology (Engineering Geology)
- Geology (Geochemistry)
- Geology (Paleobiology)
- Geology (Non-renewable Natural Resources)
- Geophysics (Applied Geophysics)

**Life Sciences**
- Biology
- Kinesiology
- Microbiology
- Psychology
- Quantitative Psychology

**E. Physical Sciences**

Any courses for which you are eligible in Astronomy, Atmospheric Sciences, Chemistry, Earth and Space Sciences (except Earth and Space Sciences 20 if used on Life Science, 115, 116, M117, and M118), Mathematics (except Mathematics 1A, 1B, 11, M12), and Physics. Also, Computer Science 20; Engineering 11; Geography, M102, 104, 105, 106; Economics 144, 145, 146, 147; Linguistics 145; Philosophy 125, 126A-B, 134, and 135. Also applicable History 3A or 3B if not applied on the Social Science Division. Note: Not more than one of History 3A, 3B, or Physics 10 may count towards the breadth requirement in the physical sciences.)

**F. Life Sciences**

Any courses for which you are eligible in Bacteriology, Biology (except Biology 30), and Kinesiology (except Kinesiology Activities courses, 106, 109, 170A-170B and 175). Also applicable, Anthropology 1A, 1B, 11, M12 (same as Public Health M12), 130A-130B, 132, 173A-173B, Asian American Studies, Communication Studies (except Communication Studies 142 and 175), Economics (except Economics 40, 141, 144, 145, 146, 147), Geography (except Geography 1, 2, 5, M102, 104, 105, 106, 108, 109, 110, 112, 171), History, (History 3A or 3B may apply as Social Science or Physical Science, but not on both; History 3C may apply as a Social Science or Life Science, but not on both). Indo-European Studies M131, M132, Political Science, Psychology (except Psychology 15, 40, 106, 107, 111, 116, 117, 118A-118B-118C, 120, 121, 131A-131B, and 142), and Sociology (except Sociology 18). Also applicable: Journalism UCLA courses only) (except Journalism 101A-101B, 180, 182A-182B); Kinesiology 106, 190, 170A-170B, 175; Linguistics 100, 103, 170; Women’s Studies 100, M148.

**H. Humanities**

Any courses for which you are eligible in Classics, Communication Studies 142 and 175, (except English, 136A-136B-136C); English as a Second Language, English, and 175, Accepted on the Social Science Division, but not on both). Indo-European Studies M131, M132, Political Science, Psychology (except Psychology 15, 40, 106, 107, 111, 116, 117, 118A-118B-118C, 120, 121, 131A-131B, and 142), and Sociology (except Sociology 18). Also applicable: Journalis UCLA courses only) (except Journalism 101A-101B, 180, 182A-182B); Kinesiology 106, 190, 170A-170B, 175; Linguistics 100, 103, 170; Women’s Studies 100, M148.

**Old Requirements**

Students who have completed 36 or more quarter units prior to the beginning of Fall Quarters 1978 may choose to complete the new requirements or Plan A or Plan B as described below.

Courses taken prior to the Fall Quarter 1978 may be applied according to the list in the Catalog of the year in which the course was taken.

Students reentering the College after an extended absence may petition the Dean of the College to graduate under the breadth requirements of Catalogs published prior to Fall 1979.

**Plan A**

**Option 1:** You ordinarily take three courses in each of the three divisions outside the division of your own major. Courses sponsored by the Council on Educational Development and cross-listed with a department may apply in the division of that department.

**Option 2:** You take three courses, excluding elementary and intermediate foreign language, in each of two divisions outside the division of your own major, and in addition complete course 5 in one foreign language.

Successful completion of a proficiency examination that is administered by a foreign language department (at UCLA) certifying proficiency at the level of course 5 is acceptable on this option. Courses authored by the Academic Senate are on Educational Development and cross-listed with a department may apply in the Division of that department.

For the purposes of both options, courses in your major division may not be used to satisfy any of these requirements. In no case may courses in your
major department or courses required for the major be used to satisfy these requirements. Courses in other divisions required in preparation for the major may be used to satisfy these requirements. Courses used exclusively to satisfy College breadth requirements may be taken on a "Pass/not pass" basis. Acceptable courses in the College of Fine Arts applicable as humanities are listed above under "H".

Plan B
You take seven courses in any division outside the division of your own major, and either one course in each of the two remaining divisions or two courses in one of the remaining divisions. The divisional requirements may be satisfied according to "E-H" above. Acceptable courses in the College of Fine Arts applicable as humanities are listed under "H".

No courses in foreign language will apply on Plan B unless you have passed course 5 in one foreign language at the college level. If you have completed course 5 in one foreign language, then all elementary and intermediate foreign language courses taken at the college level are acceptable for satisfaction of this requirement under the division of humanities.

Courses required for the major or in preparation for the major may not also be used to satisfy this requirement. In no case may courses in your major department be used to satisfy this requirement. Courses used to satisfy College breadth requirements may be taken on a pass/not pass basis. Only CED courses that are formally cross-listed with Letters and Science Departments may be applied to the Breadth Requirements.

Credit for Advanced Placement Tests
You may fulfill a part of the College requirements with credit allowed at the time of admission for College Entrance Examination Board Advanced Placement Tests with scores of 5, 4, or 3. Advanced Placement Test credit will fulfill requirements in the College of Letters and Science as follows:

<table>
<thead>
<tr>
<th>TEST</th>
<th>CREDIT ALLOWED ON COLLEGE REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>Biology 2-4 units; unassigned, 6 units (Life Science)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chemistry General: 10 units (Physical Science)</td>
</tr>
<tr>
<td>English</td>
<td>(Score 3) Composition and literature: 10 units (Subject A and 10 units Humanities)</td>
</tr>
<tr>
<td></td>
<td>(Score 4 or 5) English: 3: 4 units; English 4: 6 units</td>
</tr>
<tr>
<td>Foreign</td>
<td>Course 5: 10 units (Humanities)</td>
</tr>
<tr>
<td>Language</td>
<td>Literature: 10 unit</td>
</tr>
<tr>
<td>History – American</td>
<td>History 7A-B: 10 units (Social Science and American History and Institutions)</td>
</tr>
<tr>
<td>History – European</td>
<td>History 1C: 4 units; European History, 6 units (Social Science)</td>
</tr>
<tr>
<td>Mathematics (AB test)</td>
<td>Mathematics 31A: 5 units (Physical Science)</td>
</tr>
<tr>
<td>Mathematics (BC test)</td>
<td>Mathematics 31AB: 10 units (Physical Science)</td>
</tr>
<tr>
<td>Physics (B test)</td>
<td>Physics General: 10 units (Physical Science)</td>
</tr>
<tr>
<td>Physics (C test)</td>
<td>Physics General: 5 or 10 Units (Physical Science)</td>
</tr>
</tbody>
</table>

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

1Students who pass the Mathematics AB examination with a score of 3, 4, or 5 receive 5 units of credit for Mathematics 31A. Students who score 3, 4, or 5 on the Mathematics BC examination will receive 10 units of credit for Mathematics 31AB. Students who take both examinations will receive a maximum of 10 units of credit.

2Students who pass the Physics B examination with a score of 3, 4, or 5 will receive 5 units of credit for General Physics. Students who score 3, 4, or 5 on the Physics C, part I examination will receive 5 units of credit for General Physics. Students who take Physics C, parts I and II will receive 10 units of credit for General Physics. Students who take both the Physics B and C examinations will receive a maximum of 10 units of credit.

Any student who has completed 36 quarter units at the time of the examination will receive no Advanced Placement test credit.

Credit by Examination
Within the College of Letters and Science, eligibility for credit by examination is for the most part limited to students who have established their superiority by being approved as Departmental Scholars. You may also take a departmental honors program, or by their admission to the College Honors Program. A student not eligible by any of these criteria may nevertheless petition to the Dean on the basis of superiority at least in the area of the college in question and in related work. Petitions for credit by examination are available only through an appointment with a College counselor. A $5 fee will be charged for each petition.

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 be able to 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 advisor is named below in the presentation of the curriculum.

Information and counseling on preparing for health care professional school together with assistance in putting together an application at the time of applying is available at the Pre Health Care Advising Office, College of Letters and Science, 1332 Murphy Hall, Window 9. Open counseling sessions are held weekly for premeds, prevenitals, biweekly for prenurses (time and place are announced in the "campus events" section of the Daily Brains and posted outside of 1332 Murphy Hall or call 825-1817). For counseling on preparing for other health care professional schools, pay them a visit.

ASK counselors are on duty each weekday in the Court of Sciences by 1332 Murphy Hall. Ask counselors can answer basic questions and give referrals.

In addition, specific advisors in "pre-health" are listed in the "academics: resources to help you" section of this catalog.

Preadential Curriculum: Three Years
The College of Letters and Science offers a pre-dental curriculum designed to fulfill the basic educational requirements for admission to several dental schools and the general educational requirements of the College of Letters and Science. It is advised that you determine and satisfy the specific requirements of the dental schools to which you expect to apply.

*School of Dentistry, see Pre-Dental Requirements.
You will be more adequately prepared for the pre-dental curriculum if the following subjects are taken in high school: English, history, mathematics (algebra, geometry and trigonometry), chemistry, physics, and foreign language.

The 135 quarter units of work required for admission to the School of Dentistry include the following:

General University Requirements: (1) Subject A; (2) American History and Institutions.
Specific UCLA School of Dentistry Requirements: *1(1) English 3 or 4; (2) Sciences: Chemistry 11A, 11B, 11CL, or Chemistry 13A-13B, 21, 23, 25; Physics 3A, 3B, 3C; Biology 5, 7, 8, 8L, 138 and Psychology 10.

**Other dental schools may have different requirements.
Social sciences and humanities should also be included in the 135 quarter units for which you may, in addition to such courses as anthropology, history, economics, psychology, political science, appreciation of art and/or music, and philosophy.

For further information, consult "Admissions Requirements of U.S. and Canadian Dental Schools" in American History and Institutions. (See Announcements of the School of Dentistry, San Francisco.)

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 in the School of Dentistry in San Francisco. Admission to UCBSF is by competitive application.

The 90 quarter units of work required for admission to the School of Dentistry include general University requirements and additional specific requirements. The following courses refer to courses at the University of California, Los Angeles, which fulfill the requirements:

Curriculum Requirements. (1) Subject A; (2) American History and Institutions. The examination in American History and Institutions may be taken in the School of Dentistry, but it is preferable to satisfy the requirements in the pre-dental program; (3) English 3 or 4; (4) Chemistry 11A, 11B, 11CL, or 13A-13B, 21, 23, 25; (5) Biology 5, 7, 8, 8L, 138; (6) Mathematics 3A, 3B, 3C; (7) Psychology 10, and one additional psychology course; (8) 20 units in Social Sciences and Humanities (including foreign language).

Premedical Studies: Four Years
Students who intend to apply for admission to a medical school and who wish to complete the requirements for a bachelor's degree before such admission 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 your chosen major, you are advised to ascertain and satisfy the specific requirements for medical schools to which you expect to apply.

High school preparation for premedical studies at the University should include: three years of English, three years of United States history, one unit; mathematics, three and one-half units; chemistry, one unit; physics, one unit; biology, one unit; foreign language. Preference is given to French. It is desirable that a course in freehand drawing be taken in high school.

Usually the following courses are required for admission to the UCLA medical school: English, 12 quarter units including at least one course in Eng-Hum Composition; (1) Biology 1A, 1B, 1CL; (2) Chemistry 11A, 11B, 11CL or 13A-13B, 21, 23, 25; Physics 3A-3B-3C or Physics 6A-6B-6C or 8A-8B-C; 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 courses are 5.7, 8, 8L. Suggested upper division courses selected from the following: 110, M132 (not open to students with credit for 8-8L), 134, 136, 14-22, 22C. Courses in physical chemistry and calculus are strongly recommended. Course requirements for admission to other University of California medical schools vary slightly (e.g. UCLA and UCSF require genetics).

Prospective Physical Therapists should contact the Dean of Schools outside the University of California also vary somewhat that students should consult the publication, "Medical School Admission Requirements" USA and Canada" Revision of American Medical Colleges, 1 Dupont Circle. N.W. Washington, D.C. 20036. Also consult "The Education of Osteopathic Physicians", AACOM, 4720 Montgomery Lane, Suite 609, Washington, D.C. 20014. In addition, look for "The Undergraduate Student Manual" also an AAMC publication at the above AAMC address.

Prenursing Curriculum: Two Year

The University offers a four-year course leading to the Bachelor of Science degree in nursing. The prenursing curriculum of Campbell and Science is designed to prepare students for the program in the School of Nursing. You should apply to the School of Nursing when you have completed or have plans to complete the minimum of liberal arts courses with a grade-point average of at least 2.8. Since you must apply during the Fall of the year prior to the year in which you wish to be enrolled, you must present your proposed curriculum for the remaining quarter.

The curriculum as set forth below includes the specific requirements for application to the School of Nursing. Enrollment in the School is limited. Since students who have completed the two year prenursing curriculum cannot be assured of admission to UCLA's School of Nursing, all prenursing students must meet the admission requirements of other nursing programs. These requirements vary from school to school so it is imperative that prenursing students obtain this information from the prenursing department of liberal arts contact schools of nursing directly and attend open counseling sessions in UCLA's School of Nursing (times posted in the Office of Student Affairs, 12-139 Center for the Health Sciences) and those given by the prenursing department of the University.

Preoptometry Curriculum: Two Year

The School of Optometry, University of California, Berkeley, includes the following:

- General University Requirements—(1) Subject A, (2) American History and Institutions.

Specific UCB School of Optometry Requirements—(1) English 3 and 4; 11A, IB, 11L, 11C, 11CL or 13A, 13B, 21; (3) Psychology 3A-3B-3C; (4) Biology 5, 7, 8, 8L, Psychology 10; (5) Mathematics 3A-3B-3C or Mathematics 31A-31B-31C.

The balance of the 90 quarter units required for admission may be selected from the social sciences, foreign languages and the humanities.

Prepharmacy Curriculum: Two Years

The School of Pharmacy on the San Francisco campus of the University offers a four-year curriculum leading to the degree of Doctor of Pharmacy. To be admitted to this curriculum you must have met all requirements for admission to the University and have completed, with an average grade of C (2.00) or better, or be accepted as a student in another institution of approved standing, at least 90 quarter units of the program set forth below. Students taking the prepharmacy work at the University of California normally will be enrolled in the College of Letters and Science. These students will complete the program set forth below. The courses selected must be equivalent to those offered at the University of California. In order to complete prepharmacy studies in the minimum time, you should complete elementary chemistry, trigonometry, psychology, and intermediate algebra in high school.*

*Students who have completed the two-year prepharmacy curriculum at Los Angeles cannot be assured of admission to the School of Pharmacy of the San Francisco campus unless the number of qualified applicants for the Doctor of Pharmacy curriculum exceeds the number of approved admissions. Your application will be evaluated on the basis of scholarship as determined from your academic work in the University of California.

Prelaw Studies

Law schools have no preference in regard to specific majors or particular courses. Admission to law school is based on the quality of an applicant's 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 a career in law, including LSAT preparation. If you wish to drop in, weekends. Individual appointments cannot be made. For the time and place of the drop-in sessions, see "Campus Events" section of the Daily Bruin or Consulting the Registrar.

Schedule of Classes is a quarterly publication by the Registrar which contains information on class meeting places, instructors and the number of units provided for each course. It also includes a calendar for add/drop dates, registration and final examination schedules. It is available for 35 cents at the Students' Store, the Cashier's Office, 1125 Murphy Hall, New Campus Academic Counseling Office, Health Sciences Student Store. To obtain a copy by mail, send $1 to ASUCLA Students' Store, 308 Westwood Plaza, Los Angeles, CA 90024, ATTN: Mail Out.

Daily Bruin – UCLA's daily newspaper advertises new classes and innovative programs being offered the quarter. Issues are mailed to your Daily Bruin boxes located all over the campus. Be sure to look at the Official Notices section on Mondays and Thursdays for information and deadline dates on procedures, and announcements from the administration (i.e., financial aids, the colleges, etc.).

Lower Division Course Abstracts are offered each quarter. This is a collection of expanded course descriptions written by faculty members teaching introductory courses in hard sciences, economics, testing and research requirements, and tentative listing. Your Orientation Counselor, Undergraduate Advisor/Counselor or ASK Counselor has a copy for your use. These abstracts may be helpful in choosing classes and alternates.
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 requirements:

1. Two and one-fourth courses in chemistry, equivalent to UCLA's Chemistry 11A-IIB-11BL; 2. six courses in mathematics, equivalent to UCLA's Mathematics 31A-31B-31C and 32A-32B-32C; 3. four courses in physics, equivalent to UCLA's Physics 8A-8B.

Students transferring to the School from institutions which offer instruction in engineering subjects in the first two years, in particular, California community colleges, will be given credit for certain of the degree requirements. (See the upper division segments.) 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, subsequent to such admission, eight upper division courses which shall be used to satisfy part of their approved Major Field elective sequence.

Requirements for the Degree Bachelor of Science

The School of Engineering and Applied Science at UCLA awards the Bachelor of Science degree to students who have satisfactorily completed a program of 4 years of engineering studies.

The curricular requirements for the Bachelor of Science degree consist of the lower division and upper division segments (46 courses, 185 units), and the University requirements in scholarship, Subject A (English composition), American History and Institutions, and Language. You can find these requirements discussed in detail in "degree requirements" earlier in this section. At least 2.0 grade point average must be achieved in all University courses of upper division level offered in satisfaction of the subject requirements and required electives of the curriculum. The lower division and upper division requirements are described below:

Study lists require approval of the Dean of the School in a designated representative. It is the responsibility of the student to present study lists which reflect satisfactory progress towards the Bachelor of Science in Engineering degree according to standards set by the Faculty. Study lists or programs of study taken by students which do not comply with these standards render the student liable to enforced withdrawal from the University or other disciplinary action.

After 213 quarter units, enrollment may not normally be continued in the School. The Dean may be petitioned for special permission to continue work required to complete the degree. This regulation does not apply to Departmental Scholars.

Credit earned through the College Level Examination Program (CLEP) will not be counted toward the Bachelor's degree.

No credit will be granted toward the Bachelor's degree for college foreign language courses equivalent to quarter level 1, 2, or the equivalent of course level 2 of the same language was completed with satisfactory grades in high school.

The Curriculum

The Engineering Curriculum is accredited by the Engineers Council for Professional Development, the nationally recognized accrediting body for engineering programs.

Lower Division

<table>
<thead>
<tr>
<th>Year</th>
<th>Units 1</th>
<th>Units 2</th>
<th>Units 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 11A-11B*</td>
<td>4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics 31A-31B</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>Physics 8A-8B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English 3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Engineering 10*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electives**</td>
<td>4 4</td>
<td>4 4</td>
<td></td>
</tr>
</tbody>
</table>

*The Computer Science Department offers a placement examination each quarter during registration week to permit students to demonstrate proficiency in the subject area of Computer Science. The Computer Science Department offers a placement examination each quarter during registration week to permit students to demonstrate proficiency in the subject area of Computer Science. The Computer Science Department offers a placement examination each quarter during registration week to permit students to demonstrate proficiency in the subject area of Computer Science.

**The lower division electives shall include the following: one course in the life sciences, three courses in the humanities-social sciences-fine arts area, and one free elective.

Upper Division

<table>
<thead>
<tr>
<th>Year</th>
<th>Units 1</th>
<th>Units 2</th>
<th>Units 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sophomore Year</td>
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<tr>
<td>Mathematics 32A-32B-32C</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
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<tr>
<td>Physics 8C-8D</td>
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<tr>
<td>SEAS Core*</td>
<td>4 4</td>
<td>4 4</td>
<td>4 4</td>
</tr>
<tr>
<td>Electives**</td>
<td>4 4</td>
<td>4 4</td>
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</tr>
</tbody>
</table>

*The SEAS core requirement consists of 8 courses (32 units) to be chosen from 5 subject areas. The core is described immediately following the Upper Division column. For courses to be taken in the sophomore year, students should consult their major field advisers.

**The lower division courses shall include the following: one course in the life sciences, three courses in the humanities-social sciences-fine arts area, all chosen from an approved list of one free elective.
The student is to select 8 core courses (32 units) from the 5 subject areas listed below. The minimum and maximum number of units allowed in each of the 5 subject areas is also given.

<table>
<thead>
<tr>
<th>Subject (5)</th>
<th>Courses(12)</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering 100</td>
<td>4</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Electrical and Electronic Circuits (4)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Engineering 100B</td>
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<td></td>
<td></td>
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<tr>
<td>Engineering Electromagnetics (4)</td>
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</tr>
<tr>
<td>Engineering 14*</td>
<td>8</td>
<td>12</td>
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</tr>
<tr>
<td>Science of Engineering</td>
<td></td>
<td></td>
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<tr>
<td>Materials (4)</td>
<td></td>
<td></td>
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<tr>
<td>Engineering 105A</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Introduction to Engineering</td>
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<tr>
<td>Thermodynamics (4)</td>
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<tr>
<td>Engineering 105D</td>
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<tr>
<td>Transport Phenomena (4)</td>
<td></td>
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<tr>
<td>Mechanics</td>
<td></td>
<td></td>
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<tr>
<td>Engineering 102</td>
<td>8</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Mechanics of Particles and Rigid Bodies (4)</td>
<td></td>
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<tr>
<td>Engineering 103A</td>
<td></td>
<td></td>
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<tr>
<td>Elementary Fluid Mechanics (4)</td>
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<tr>
<td>Engineering 108</td>
<td></td>
<td></td>
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<tr>
<td>Introduction to Mechanics of Deformable Solids (4)</td>
<td></td>
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<tr>
<td>Systems</td>
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<tr>
<td>Engineering 106B</td>
<td>4</td>
<td>8</td>
<td></td>
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<tr>
<td>Introduction to Design and Systems Methodology (4)</td>
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<tr>
<td>Engineering 121C</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Systems and Signals (4)</td>
<td></td>
<td></td>
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<tr>
<td>Engineering 127B</td>
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<td></td>
<td></td>
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<tr>
<td>Elements of Probability and Information (4)</td>
<td></td>
<td></td>
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<tr>
<td>Computer Processes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Engineering 124A</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Applied Numerical Computing (4)</td>
<td></td>
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</tr>
</tbody>
</table>

*Not open for credit to students who have had Engineering 107B.

Credit for Transfer Students
A course in digital computer programming, using a higher-level language such as Fortran IV or PL/I, will satisfy the requirement. Engineering 10.

Certain lower division technical courses such as surveying, engineering drawing, engineering measurements, and descriptive geometry will be given credit as free electives. (A maximum of three courses may be free electives.) See "Electives," below.

Many sophomore courses in circuit analysis, strength of materials, and properties of materials may satisfy Engineering 100, Engineering 108, and Engineering 14 respectively.

Check with the Undergraduate Office, 6426 Boelter Hall.

Electives
The Engineering and Applied Science Curriculum for the Bachelor's degree includes provision for 24 elective courses to be chosen within the following categories:

1. Free electives, 3 courses, 12 units.
   Any course yielding credit acceptable to the University of California to be selected. It is however, strongly recommended that you select additional technical courses for some of these units.

2. Humanities, Social Sciences, and/or Fine Arts, 7 courses, 28 units. To be chosen from an approved list.
   Of the seven courses, at least three (12 units) must be upper division courses. Students from California community colleges (only) may reduce this to two upper division courses (8 units) provided they are in the same field; however, all students, including California community college transfers must have a minimum total of 7 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 respect to subject matter. This group must contain at least two upper division courses.
   With few exceptions, courses intended primarily to develop specific skills should be avoided (e.g., dexterity in performance on a musical instrument, ability to manipulate people, grammatical and composition skills, etc.). An exception is effective when the particular 'skill' course is prerequisite to another upper division course which is strictly in the humanities or social science (e.g., foreign language and literature courses taught in the language, etc.).
   A list of courses which are normally acceptable individually as humanities-social sciences-fine arts electives is available in the Undergraduate Office, 6426 Boelter Hall.

3. Engineering and Science in Society, 1 course, 4 units.
   One of the seven humanities-social sciences-and/or fine arts courses or one of the free electives shall be a course (4 units) dealing primarily with engineering and science in society in the 100, 200, or 596 series. To be chosen from an approved list.

4. Life Science, 1 course, 4 units. To be chosen from an approved list.

5. Mathematics, 1 course, 4 units (upper division).
   To be chosen from an approved list and appropriate for the student's major field of study.

6. Major Field, 48 units (upper division).
   The major field elective program shall be chosen so as to reflect coherence with respect to subject matter and to prepare the student for an area of specialization (including unified engineering). The twelve courses shall include (a) at least 8 units of laboratory experience to be satisfied by designated laboratory courses or a 4-unit laboratory course and two courses each including 2 units of laboratory experience and (b) one upper division course (4 units) in economics chosen from an SEAS approved list.

7. The engineering design content of the student's program (major field electives, core courses, technical electives, free electives, etc.) must total at least 23 units.

Lists of courses approved to satisfy the elective requirements specified above are posted on the bulletin board in the Undergraduate Office, 6426 Boelter Hall.

Advising and Program Planning
It is mandatory for all students entering the undergraduate program to have their courses of study approved by an Engineering adviser. After the first quarter, curricular and career advising will be accomplished on a formal basis.

Students will be assigned to faculty advisers matching their major fields of interest whenever possible.

A specific adviser or an adviser in a particular Engineering Department may be requested by submission of a Request for Change of Undergraduate Adviser form available in the Undergraduate Office.

A list of faculty members and their specialties is posted on the Undergraduate Office bulletin board located in 6426 Boelter Hall. Your regular faculty adviser is available to assist you in planning your electives and for discussions regarding your objectives.

Choose a curriculum under which you wish to graduate. You will use the curriculum in effect when you begin full-time continuous study in Engineering at UCLA. However, any student has the option of selecting the curriculum in the General Catalog in effect at graduation. Community college transfers have the additional option of choosing the curriculum in the General Catalog in effect at the time they began their community college work in an engineering program, provided attendance has been continuous since that time.

Attend the Junior Conference conducted by the School of Engineering and Applied Science for the purpose of helping you to plan your curriculum. The Conference usually is held during the fourth week of each quarter. For time and place consult the Undergraduate Office, 6426 Boelter Hall.

Plan your electives. The Elective selection form approved by the major field advisor must be submitted for approval by the Assistant Dean, Undergraduate Studies, Undergraduate Office, 6426 Boelter Hall, during the first quarter of the junior year. The deadline for juniors to submit their elective selections is announced each term in the Undergraduate Enrollment Instructions brochure, School of Engineering and Applied Science.

Members of the Undergraduate Office Staff are available to assist you with University procedures and to answer any questions which you may have in regard to general requirements. Pay them a visit.

"Passed-Not Passed"
Engineering undergraduate students may take one course per quarter on a Passed/Not Passed basis if the following conditions are met:

1. You are in good academic standing, i.e., not on academic probation or subject to academic dismissal.
2. You are enrolled in at least 3 1/2 courses (14 units) for the quarter including the course taken on a passed/not passed basis.
3. Only humanities-social sciences-and/or fine arts and free electives may be taken on a passed/not passed basis.
4. If you have not elected the passed/not passed option in the preceding quarter you may take two courses passed/not passed. You must submit a petition to the Dean for approval to take two courses on a passed/not passed basis in one term.
5. If you have not received two not passed grades. A student who has received two "not passed" grades shall be excluded from electing passed/not passed for the next term in residence.
6. A grade of "passed" shall be awarded only for work which would otherwise receive a grade of "C" or better.

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.

Minimum qualifications include the completion of 24 courses (96 quarter units) at UCLA, or the equivalent at a similar institution, and the requirements in preparation for the major. To obtain both the bachelor's and master's degrees the Departmental Scholar will fulfill the requirements for each program and maintain a minimum average of "B". The student may not use any course to fulfill requirements for both degrees.

Interested students should consult the Assistant Dean, Undergraduate Studies, 6412 Boelter Hall.
well in advance of application dates for admission to graduate standing.

Dean's Honor List
Students following the Engineering curriculum are eligible to be named to the Dean's Honor list each term. They must have carried a minimum load of 16 units, 12 units minimum of letter grade, with a grade point average better than 3.70.

Honors with the Degree
Students who have achieved scholastic distinction in upper division studies may be awarded the Bachelor's degree with the appropriate honors designation: Cum Laude, Magna Cum Laude, or Summa Cum Laude. Based on grades achieved in upper division courses, a student should have a 3.4 upper division grade point average to qualify for Cum Laude, a 3.6 for Magna Cum Laude, and a 3.8 for Summa Cum Laude. Designation of honors, students must have a minimum 3.25 semester average in their major field elective courses to qualify. To be eligible for an award a student should have completed at least 80 units of upper division studies 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."

Student Activities
You will find an abundance and variety of extracurricular activities at UCLA, which provide many opportunities for valuable experiences in leadership, service, recreation, and personal satisfaction. The Faculty of the School strongly encourages students to participate in such activities, especially those of most relevance to engineering. Among the latter are the student engineering societies such as the Engineering Society of the University of California and the Engineering Graduate Student Association, the student publications, and the student-oriented 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 13.8 percent of the undergraduate and 8.5 percent of the graduate enrollment in the School of Engineering and Applied Science. Today's opportunities for women in engineering are excellent, as both employers and educators try to change the image of engineering as a "males only" field. Women engineers are in great demand in all fields of engineering. The Society of Women Engineers (SWE), recognizing that women in engineering are still a minority, has established a UCLA student chapter to provide for their interests. This student section of SWE sponsors field trips and engineering-related speakers (often professional women) to provide an introduction to 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
The Department of Continuing Education in Engineering and Mathematics, UCLA Extension, maintains an Evening Information Center in 6266 Boelter Hall which is open 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.

Need to know more?
The Announcement of the School of Engineering and Applied Science, available by writing to the Undergraduate Office, School of Engineering and Applied Science, University of California, Los Angeles, California, 90024 gives an expanded version of the program described in this section.

The College of Fine Arts
The UCLA College of Fine Arts is a young, dynamic center for higher education in the arts. Founded only 20 years ago and located in Los Angeles—a focal point for the Arts—the College of Fine Arts is a recognized leader in teaching not only the history, but also the practice of the visual and performing arts.

The College of Fine Arts consists of four departments: Art, Dance, Music and Theater Arts. Together with the College of Letters and Science, the College of Fine Arts is the foundation in the liberal arts upon which the balance of the University's academic and professional structure rests.

The College has the following major responsibilities:
1. To provide the University community with an educational program designed to communicate an understanding of man's artistic creativity to fine arts majors and non-majors alike.
2. To provide the fine arts major with a liberal education as well as a serious, disciplined, professional training.
3. To provide both the creative and performing artist on the one hand, and the historian and critic on the other, with programs of the highest quality.
4. To develop programs of research, study and performance which recognize the unique role that the arts play in exploring and comprehending alien cultures.
5. To support, as appropriate, the important and growing extracurricular programs in the full range of the Fine Arts for the benefit not only of the University community, but for the public at large.

Examples of efforts to meet this responsibility are to be found in the program of art gallery and museum exhibits, plays, concerts, dance recitals, and the like, all of which are increasingly enriching the campus cultural program. In this connection, it should be added, the College has close ties with the Committee on Fine Arts Productions, with the Student Committee of the Arts—whose main interest lies in organizing programs for campus students—and in involving more and more students in Fine Arts events—and such support groups as the UCLA Art Council, the Friends of the Graphic Arts, and the Council for the Performing Arts.

Majors Offered
Majors leading to the degree of Bachelor of Arts are offered in the following areas:

History of Art, Design, Painting/Sculpture/Graphic Arts
Composition and Literature

Dance
Music, with specialization in Composition and Theory, Ethnomusicology, History and Literature, Music Education, Applied Music, Systematic Musicology
Theater, Motion Pictures/Television

Ethnic Arts: Interdisciplinary studies

Students interested in obtaining teaching credentials for secondary and elementary schools should consult the Graduate School of Education.

Students in the College of Fine Arts also have the opportunity to plan an individual major as described in the "Requirements for the Major" section of this description of the college.

Admission
Some departments require auditions, portfolios, or evidence of creativity, but these should not be sent with the application, since detailed information regarding this requirement will be mailed to the student upon receipt of his application. Deadline for applications is November 30, 1979 for admission in the Fall Quarter of 1980.

Requirements for the Bachelor's Degree
Each student must meet the University, College and Major requirements, and the unit, scholarship, and residence requirements, as follows:

University Requirements: For subject A and American History and Institutions, please consult the index.

College Requirements
All students must complete the specific subject requirements established by the University, the College of Fine Arts, and the student's major department.

The general requirements of the College of Fine Arts, which must be completed with a grade point average of 2.0 or better, provide for breadth in your education, and are planned to insure a degree of basic skill in communication—both in English and in one foreign language—to offer you an introduction to each of the broad fields of human learning: science/mathematics, social science, and the humanities.

Students attending a California community college should consult their counselors to determine which community college courses are appropriate and are accepted in satisfaction of the general college requirements by the College of Fine Arts.

No "198", "199", "special topics" or "selected topics", or CED courses and no seminars, pro-seminars or freshman seminars may be applied on the general requirements of the College. Courses which are multiple-listed (numbers preceded by "M") may not be applied on these requirements.

English (Grammar and Rhetoric), [4 units] English 3 with a grade of "C" (2.0) or better. Must be completed by the end of the freshman year. This course may not be taken on an "M" basis.

English (Composition and Literature), [4 units] English 4, with a grade of "C" (2.0) or better; must be completed by the end of the sophomore year. This course may not be taken on a "pass/not pass" basis.

Foreign Language, [12 units] Three college courses in one foreign language, through the third level, other than the foreign language taken in high school or the native tongue of foreign students. A student whose entire secondary education has been taken in a language other than English, may upon petition be exempt from the foreign language requirement.

This requirement must be completed by the end of the sophomore year. If level 3 is completed with at least 4 quarter units of work, without taking levels 1 and 2, an additional 2 is November 30 units) must be completed from the approved lists of courses that comprise the general requirements. Some majors may require the completion of the language prior to entry into the major. Proficiency examinations may not be used to complete this requirement.

Science/Mathematics, [8 units] One course in physical or biological science and one course in another natural science or in mathematics.

Physical and Biological Science Courses. Selected courses from:

- Anatomy
- Astronomy
- Meteorology
Bacteriology
Biology
Botany
Chemistry
Entomology
Geology
Meteorology
Microbiology
Mineralogy
Oceanography
Paleontology
Physics
Physiology
Zoology
Other Natural Science and Mathematics Courses
Anthropology (physical or biological only)
Ecology (physical or biological, not crossed with social science or humanities)
Environmental Science (physical or biological, not crossed with social science or humanities)
Geography (physical only)
Mathematics (no remedial or history)
Psychology (physical or biological only)
Social Science. (12 units) One course in the history of any period prior to 1600, one course in the history of any period after 1600, and one other social science course.
Other Social Science Courses
Anthropology (except physical or biological or courses dealing with language study)
Economics (principles, history and theory only)
Geography (except physical)
History (except medical or geology)
Political Science
Psychology (except physical)
Sociology and Social Science
Note: Survey courses in history which cover "anti-
quity to present" will be applied only on History after 1600 or "other social science."

Humansites. (12 units) One course in The Arts, one course in Literature, one course in Philosophy and/or Religion. Perform may study or moviefilm courses do not meet this requirement. Courses in your major department may not apply on this requirement.

The Arts Courses
Art, Dance, Music and Theater Arts (history, appreciation and criticism only)
Classics 151ABC
Architecture (history or survey only)
Literature Courses
English, African or American literature, including work in translation
Humansites (not crossed with social science or science)
Classics (except 151ABC)
Folklore/Mythology
Philosophy/Religion Courses
Philosophy
Religion
Any course applied on one of the specific subject areas may not also be applied on another requirement. No course used to satisfy any general University requirement may also be applied to the general College requirements.

A few course areas that DO NOT APPLY on the general college requirements are: Business, Communications, Criminology, Education, Engineering, Family Life, Marriage and Child Care, Field Studies, Home Economics, Independent Studies, Inter-
disciplinary Studies, Journalism, Law, Mass Media, Public Health, Speech, and Writing.

Additional Non-Major Department Requirements
For The Degree: 3 Upper Division courses (12 units) completed outside your major department. These courses may not apply on the General College requirements. Studio, performance, activity, and 199 (Independent Studies) courses may not apply on this requirement.

Optional General College Requirements
Students graduating by June, 1980 have the option of satisfying the former general requirements of the College of Fine Arts in lieu of the foregoing General College Requirements. In all cases, the general University requirements and the major requirements will be those currently in effect at the time of graduation.

Under the Optional Plan you must take at least 96 units of work outside the major department (8 of which must be upper division units), including the 56 units needed to complete these optional breadth requirements.

The optional requirements, which must be met in full without exceeding the 208 unit limit, are as follows:

English Composition
One course in English composition (English 3) with a grade of "C" (2.0) or better, taken at UCLA or transferred from another institution, is required of all students. This course may not be taken on a "pass/not pass" basis, and must be completed by the end of the sophomore year (90 units of work).

A foreign student whose entire secondary school work was completed in his native tongue, excluding English, may satisfy this requirement with English 33C if completed with a grade of "C" (2.0) or better.

Foreign Language: Life, Physical and Biological Sciences; Social Sciences; and Humanities
Thirteen courses (52 units) chosen from these four areas, including at least three courses (12 units) in one foreign language, and at least three courses (12 units) in each of two other areas. Any course applied on one of these four general requirements may not also be applied on another of these requirements.

Foreign Language
At least three courses in one foreign language are required of all students. This requirement must be met no later than the sixth semester of the major program. All courses in foreign language, except foreign literature in English translation, may be applied to this requirement.

Without reducing the total number of units required for the bachelor's degree, high school foreign language work with grades of "C" or better and not duplicated by college work will count as follows: the first two years together equal two college courses and the third and fourth years each equal one college course. No more than the equivalent of three college foreign language courses taken at the high school level will count toward the required thirteen courses.

A foreign student whose entire secondary school work was completed in his native tongue, excluding English, may, if the department considers him to have fulfilled the foreign language requirement.

Life, Physical and Biological Sciences
Courses from any of the life, physical and biological sciences will meet this requirement.

Social Sciences
You may select courses to meet this requirement from the following: most courses in anthropology, economics, geography, history, political science, psychology, and sociology. Any economics, history or political science course taken to satisfy the University requirement in American History and Institutions may also be applied on this requirement.

Humanities
Courses to meet this requirement may be selected from the following areas:
The Arts: courses in art, dance, music, and theater arts, except that courses in your major department may not apply on this requirement. Also courses in Classics or Folklore and Mythology.

Note: Performance or studio courses do not meet this requirement.

Literature: all courses in English, American or foreign literature (classical to contemporary), including work in translation. In addition to literature courses offered by language departments, literature courses given by the Department of Classics and the Department of Humanities are also acceptable.

Philosophy: all courses in philosophy; also courses in religion offered by other departments.

Credit earned through the CEEB Advanced Placement Examinations may be applied on the General College requirements as follows: credit for English 1 and 2 (with scores of 4 or 5 only) will apply on the English Composition requirement; all foreign language credit will apply on the foreign language requirement; all credit in science and mathematics will apply on the science/mathematics requirement; and all credit in history will apply on the social science requirement.

It is important to note that 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, deduction of unit credit for such duplication will be made prior to graduation.

Major Requirements
A major is composed of not less than 14 courses (56 units), including at least nine upper division courses (36 units). The major includes both lower and upper division courses, arranged and supervised by the department and approved by the Executive Committee of the College.

Each candidate for the bachelor's degree is required to complete a major in the College of Fine Arts with a scholarship average of at least two grade points per unit (C average) in all courses, and must be recommended by the chairman of his major department.

Your attention is directed to the courses listed as preparation for the major in the "courses" section of this Catalog. In general, it is essential that these courses be completed before upper division major work is undertaken. In any event, they are fundamental requirements for the completion of the major.

Any student failing to attain a scholarship average of at least two grade points per unit in a major department may, at the option of the department, be denied the privilege of a major in that department.

A department may submit to the Dean of the College the name of any student who, in the opinion of the department, cannot profitably continue in the major, together with a statement of the basis for this opinion and the probable cause of the lack of success. The Dean may permit a change of major, or may, with the approval of the President, require the student to withdraw from the College.

Any department offering a major in the College of Fine Arts may require from candidates for the degree a general final examination in the department.

As changes in major requirements occur, students are expected to satisfy the new requirements insofar as possible. hardship cases should be discussed with the departmental adviser, and petitions for adjustment submitted to the Dean of the College when necessary.

Majors:
Majors leading to the degree of Bachelor of Arts are offered in the following areas:
History of Art, Design, Painting/Sculpture/Graphic Arts.
Dance.
Music with specialization in Composition and Theory, Ethnomusicology, History and Literature, Music Education, Applied Music, Systematic Musicology.
Theater, Motion Pictures/Television.
Ethnic Arts: Interdisciplinary studies.
Students interested in obtaining teaching credentials for California elementary and secondary schools should consult the Graduate School of Education.

Ethnic Arts: Interdisciplinary Studies
An intercollege, interdepartmental major is offered in Ethnic Arts. It is open to students in both the College of Fine Arts and the College of Letters and Science. You remain in the college of your choice and fulfill the breadth requirements of that college. Counseling is available in the department of your concentration.

The degree is not viewed necessarily as a foundation for graduate study, but may become so with proper course selection if that is your aim.

The major includes a core of seven courses from the departments of Anthropology, Art, Dance, Folklore and Mythology, Music, and Theater Arts; a concentration in one of the six disciplines; at least three courses in one foreign language; a senior colloquium; and electives selected by the student.

Admission to the major will be by special application to the Committee in Charge.

For further details, see "Ethnic Arts" in the "Courses of Instruction" section of this catalog.

Individual Majors
A student who is already regularly enrolled and attending classes at UCLA, who has some unusual but definite academic interest for which no suitable major is offered, and who has completed at least three quarters of work (a minimum of 9 courses) at the college level with a grade-point average of 3.0 or higher, or the equivalent in creative work and performance, may, with the assistance of a faculty advisor in consultation with the chairman of the faculty advisor's department, and with the consent of the Dean, plan his own major. A majority of the courses in the major must be in departments in the College of Fine Arts with no more than three performances or studio courses. The individual major is subject to the 208 unit limit and must comply with all University and College requirements.

The major should be submitted and approved by the first quarter of the junior year, but no later than the first week of classes of the third quarter before the student's intended graduation.

If you are interested in an individual major, consult the Student Information section of the Dean's Office located in A333 Murphy Hall, for information and forms necessary to implement such a major.

The individual major must be approved by the Executive Committee of the College before it may be accepted in lieu of a departmental or interdepartmental major. The faculty advisor (who must be a regular member of the faculty of the College of Fine Arts) shall supervise your work in lieu of a department or committee, and your study list must be approved both by him and the Dean before it will be accepted by the Registrar. A senior paper or project is required of each student with an individual major.

The Dean must certify that the student has completed the requirements of the major before the degree is granted.

Unit Requirements
The candidate for the Bachelor of Arts degree shall have completed for credit no less than 45 courses (180 units) or no more than 52 courses (208 units) of which at least sixteen courses (64 units) shall be upper division courses (numbered 100-199).

No more than one course (4 units) of Physical Education 1 and 2 and/or Kinesiology 1 and 2A-2Z may be counted toward the degree. No more than four CED courses (16 units) and no more than two courses (8 units) of Freshman Seminars will be counted toward the degree.

Credit for 199 courses is limited to four courses (16 units), two courses (8 units) of which may be applied to the major. All 199 courses must be taken for a letter grade.

Only work of passing quality will apply toward degree requirements.

University Extension courses with the prefix "X" on those numbered in the 200, 300, 400 or 800 series do not apply toward the degree.

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

The Study List
Each quarter the student study list must include from twelve to seventeen units. Petitions for more than seventeen units must be filed and approved by the Dean of the College prior to the deadline dates listed in the annual Announcement of the College of Fine Arts.

If you have not filed your study list by the end of the second week of classes, you must secure the permission 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 the Dean for advance approval of the department chairman and the Dean of the College, prior to enrollment and must meet the specific qualifications for such courses. Courses numbered in the 400 and 500 series are not available to undergraduate students in the College of Fine Arts.

Scholarship Requirements
A "C" average (2.0) is required in all work attempted in the University of California, exclusive of courses in University Extension and courses attempted on a pass/not pass basis. A "C" average (2.0) is also required in all upper division courses at the major attempted in the University as well as in all courses applying to the General College requirements and courses, and all University requirements.

The Minimum Progress requirements discussed under "Grades and Scholarship Requirements" in the introductory section of "undergraduate Education at UCLA" also apply to all students enrolled in the College of Fine Arts.

Residence Requirements
Of the last 45 units completed for the bachelor's degree, 35 must be earned in residence in the College of Fine Arts. (A student is "in residence" only while enrolled and attending classes at UCLA as a major in one of the departments of the College of Fine Arts.) Not more than 18 of these 35 units may be completed in summer sessions at UCLA.

University Extension. Courses in University of California Extension (either class or correspondence) may not be offered as part of the residence requirement.

Concurrent Enrollment. Concurrent enrollment in courses at another institution or in University Extension (including correspondence courses) is permitted only in extraordinary circumstances, and no credit is given for such courses unless the approval of the Dean has been obtained by petition prior to enrollment.

Counseling
The College of Fine Arts has established an academic counseling program designed to orient you to the University's offerings and facilities, and to assist you in crystallizing your educational objectives and in planning your course of studies. The program includes meetings at the departmental level, and individual interviews with departmental counselors and faculty advisers.

Prior to registration and enrollment in classes, each new student is assigned to a departmental advisor in his or her department, and it is expected that the student will return to the advisor for program planning each quarter. It is the advisor's function to help you make wise decisions concerning educational goals, but not to dictate what you should do. It is your responsibility to become familiar with University and College requirements and to make your own decisions.

The College of Fine Arts publishes an announcement which provides additional information you may find helpful. To obtain a free copy, stop by the Dean's Office, A333 Murphy Hall, or request one by mail from The College of Fine Arts, UCLA, 405 Hilgard Avenue, Los Angeles, California, 90024.

In addition, the College offers counseling and information on academic difficulties and related matters at the Student Services Center in the Dean's Office, located in A333 Murphy Hall; telephone 825-1554.

Program planning questions, or inquiries about degree requirements should be directed to the departmental counselor.

In addition to the counseling available in the College, the Psychological and Counseling Services in 4223 Math Sciences and the Placement and Career Planning Center located just south of Powell Library can provide informed guidance.

Honors
Dean's Honors will be awarded at the end of the Spring Quarter to students completing the previous year's program with distinction according to criteria established by the Dean of the College.

Honors with the Bachelor's 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 Cum laude, an overall average of 3.4; Magna cum laude, 3.6; Summa cum laude, 3.8. To be eligible for College Honors, you must have completed at least 20 graded courses (80 units) in the University of California.

A list of students graduating with College honors will be published in the Commencement Program, and honors earned will be recorded on each student's diploma.

In addition, the following publications offer you added information about UCLA in general: "Finders Keepers"—a handbook to UCLA, with sections on general academic planning. Reference copies are available through all department, college, school and ASK counselors, at the College Library and University Research Library reference desks, and at a number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).
The Master's Degree at UCLA

The Master of Arts degree is offered at UCLA in a wide range of fields. These are:
- African Area Studies
- Anthropology
- Archaeology
- Architecture and Urban Planning
- Art
- Art History
- Asian American Studies
- Astronomy
- Astronomy (M.A.T.)
- Biology
- Classics
- Comparative Literature
- Dance
- Economics
- Education
- English
- Folklore and Mythology
- French
- Geography
- German
- Greek
- History
- Islamic Studies
- Italian
- Latin
- Latin American Studies
- Linguistics
- Luso-Brazilian Language and Literatures
- Mathematics
- Mathematics (M.A.T.)
- Microbiology
- Music
- Near Eastern Languages and Cultures
- Oriental Languages
- Philosophy
- Physics (M.A.T.)
- Political Science
- Psychology
- Romance Linguistics and Literature
- Scandinavian
- Slavic Languages and Literatures
- Sociology
- Spanish
- Teaching of English as a Second Language
- Theater Arts
- *Interdepartmental Programs
- *Master of Arts in Teaching

Other Master's Degrees

In addition to the 69 departmental or interdepartmental degrees on the list above, UCLA also provides an education leading to the Master's degree in the following fields:
- Architecture (M.Arch.)
- Art (M.F.A.)
- Education (M.Ed.)
- Engineering (M.Eng.)
- Library and Information Science (M.L.S.)
- Management (M.B.A.)
- Music (Performance Practices) (M.F.A.)
- Nursing (M.N.)
- Public Health (M.P.H.)
- Social Welfare (M.S.W.)
- Theater Arts (M.F.A.)

Requirements for the Master's Degree

As a candidate for a Master's degree at UCLA, you are expected to meet the required standards described in this section.

Courses

The program of courses consists of at least nine graduate and upper division courses completed in graduate status, including at least five graduate courses. For the Master of Arts, Master of Science, and Master of Arts in Teaching, the five graduate courses may be in the 500 series (graduate professional courses) as well as in the 200 and 500 series. The application of 500-series courses to master's degrees is subject to limitations approved by the Graduate Council. Courses numbered in the 400 series are professional courses or preprofessional experience and are not applicable to University minimum requirements for graduate degrees.

Under the Quarter System at UCLA, the term "course" refers to a full course (4 quarter units). With this as a standard, departments may offer a half course (2 quarter units), a course and a half (6 quarter units) or a double course (8 quarter units). The requisite nine-course minimum for a master's degree may be fulfilled through combination of such courses.

Scholarship Standards

You are required to maintain at least a B (3.0) average in all courses taken in graduate status on any campus of the University of California and in all courses for the master's degree.
Foreigh Language

If your degree program includes a foreign language requirement, you should make every effort to fulfill it before the beginning of graduate study—or as early as possible. In that way, the language skill you have acquired will be the most useful to you. You will normally meet these requirements by completing one or more examinations. You may take French, German, Russian and Spanish examinations which the Educational Testing Service (ETS) offers at UCLA and at other locations throughout the United States several times a year. In other languages, examinations are administered by foreign language departments at UCLA. When language courses are to be used to fulfill the requirements by ETS examinations, prospective graduate students are normally encouraged to take these examinations, while still juniors and seniors if possible, and their scores, if sufficiently high, may be used to satisfy foreign language requirements for their graduate degrees. UCLA requires a minimum ETS score of 500 for passing.

You should direct your questions on foreign language requirements to departments; questions about the procedure for this should be directed to the Language Examination Coordinator, Student and Academic Affairs Section, Graduate Division, or to the Educational Testing Service, Box 955, Princeton, New Jersey 08540, or to the Associate Dean of the Graduate Division for a chart summarizing departmental foreign language requirements.

Academic Residence

You must complete at least three quarters of academic residence in graduate status at the University of California, including at least two quarters at UCLA. You are in academic residence if you complete at least one course (4 units) in graduate or upper-division work during a quarter.†

†Enrollment in two six-week Summer Sessions must be concurrent for doctoral candidates. At least one quarter of residence must be included in each session for the equivalent of at least two quarters of upper division and graduate work as given in a regular quarter. Enrollment in an eight-week Summer Session counts as one quarter of residence, provided you are enrolled for the equivalent of at least four units of upper division and/or graduate work as given in a regular quarter. Academic residence that is earned through enrollment in Summer Sessions is limited to one-third of the degree requirements.

Withdrawal

A student withdrawing from the University within the course of the quarter must file an acceptable "Notice of Withdrawal" and return the photo I.D. card and current Registration card. The withdrawal form containing complete instructions is issued at the Student and Academic Affairs Section of the Graduate Division, 1225 Murphy Hall or Registrar's Information Window "A," Murphy Hall. Failure to attend classes, neglect of courses, or stopping payment on checks tendered for registration do not constitute notice of withdrawal.

With approval of the Dean of the Graduate Division, a student who is eligible for further registration in the University and who is not under disciplinary probation or other disqualification is entitled to a statement of honorable withdrawal. However, the Dean may attach comments to this statement.

A registered student who withdraws from the University before the end of the quarter without authorization duly certified by the Registrar shall receive the grade of "U," which is "Unsatisfactory" in each course in which he/she is enrolled.

A percentage of the registration fees paid is refunded according to the calendar date on which the official notice of withdrawal is submitted to the Registrar. See current Schedule of Classes for refund schedule.

Cancellation of Registration

Prior to the first day of instruction, a student may cancel his/her registration upon written notice and return of the photo I.D. card and current Registration card to the Registration Office, 1134 Murphy Hall. A service charge of $10 is deducted from the amount of fees paid.

Transfer of Credit

Units and grade points for courses completed in graduate status on other University of California campuses, may, upon petition, apply to master's programs at UCLA. If approved, such courses may fulfill up to one-half the total course requirement, one-half the graduate course requirement, and one-third the academic residence requirement.

Also by petition, with the approval of the student's major department and the Dean of the Graduate Division, a student may fulfill a minimum grade of B in graduate status at institutions of acceptable standing other than the University of California may apply to UCLA master's programs. A maximum of two such courses (the equivalent of eight quarter units or five semester units) may apply, but these courses may not be used to fulfill either the five-graduate-course requirements or the academic residence requirement.

Courses taken for any degree awarded at another institution may not be used to apply toward a degree at UCLA.

Courses in University Extension (100 series) taken before July 1, 1969 (identified with an asterisk in the University Extension bulletin of the appropriate year), may apply toward a degree by the department and the Dean of the Graduate Division. No more than two such courses (8 units) may apply, and they must have been completed after you received your bachelor's degree. University Extension courses in University Extension examination plans must have been completed after you received your bachelor's degree. University Extension courses in University Extension examination plans taken after July 1, 1969 must be approved by the department and the Dean of the Graduate Division. No more than two such courses (8 units) may apply, and they must have been completed after you received your bachelor's degree.

Courses in University Extension (400 series) taken after July 1, 1969 (identified with an asterisk in the University Extension bulletin of the appropriate year), may apply toward a degree by the department and the Dean of the Graduate Division. No more than two such courses (8 units) may apply, and they must have been completed after you received your bachelor's degree.

Courses in University Extension (200 series) taken after July 1, 1969 (identified with an asterisk in the University Extension bulletin of the appropriate year), may apply toward a degree by the department and the Dean of the Graduate Division. No more than two such courses (8 units) may apply, and they must have been completed after you received your bachelor's degree.

Transfer of credit for any course taken at UCLA after the quarter in which you received your bachelor's degree may be counted toward the nine-course University minimum, but not the five-graduate-course requirement for the master's degree. However, the program for the master's degree shall include at least two graduate courses in the 200 or 400 series completed after admission to regular graduate status. Any program which requires more than nine courses for the master's degree may accept concurrent courses completed through extension (with a grade of B or better, after you have received your bachelor's degree) to meet one-half the course requirements over and above the University minimum. Grades earned in University Extension are not included in computing grade averages for graduate students nor for the removal of graduate scholarship deficiencies. Correspondence courses are not applicable to graduate degrees.

The Candidate in Philosophy Degree

In those departments for which the Graduate Council has approved formal proposals for its award, the intermediate degree Candidate in Philosophy (C.Phl) may be awarded qualified students upon advancement to candidacy in existing Ph.D. programs.

Departments Offering the Degree

The Candidate in Philosophy degree is offered at UCLA in these departments: Anatomy

Applied Linguistics

Atmospheric Sciences

Biochemistry

Biology

Chemistry

Classics

Comparative Literature

Economics

English

French

Geochimistry

Geography

Geology

Germanic Languages

Hispanic Languages and Literatures

History

Indo-European Studies

Islamic Studies

Italian

Linguistics

Management

Mathematics

Music

Near Eastern Languages and Cultures

Oriental Languages

Philosophy

Political Science

Dissertations, located in the Office of the University Archivist, Powell Library, and the Graduate Division publication, Standards and Procedures for Advanced Degree Manuscript Preparation, provide guidance in the final preparation of the manuscript.

Under the Comprehensive Examination Plan, the examination is administered by a committee, consisting of at least three faculty members, appointed by the department. In some departments this examination may also serve as a screening or qualifying examination for a doctoral program.

Other Master's Degrees

For master's degrees other than the M.A. and M.S. there may be specific University minimum requirements in addition to the foregoing. You can get information on these from your departmental graduate advisor.

Advancement to Candidacy

Advancement to candidacy takes place after formal approval of your program, which may include work in progress. You file for advancement to candidacy no later than the second week of the quarter in which you expect to receive the degree. However, advancement to candidacy may not occur until all requirements, including the foreign language requirement, have been satisfied. Upon completion of course requirements and formal advancement to candidacy, you may have up to one additional year in which to complete all requirements for the degree.

The Candidate in Philosophy Degree

In those departments for which the Graduate Council has approved formal proposals for its award, the intermediate degree Candidate in Philosophy (C.Phl) may be awarded qualified students upon advancement to candidacy in existing Ph.D. programs.

Departments Offering the Degree

The Candidate in Philosophy degree is offered at UCLA in these departments:

Anatomy

Applied Linguistics

Atmospheric Sciences

Biochemistry

Biology

Chemistry

Classics

Comparative Literature

Economics

English

French

Geochimistry

Geography

Geology

Germanic Languages

Hispanic Languages and Literatures

History

Indo-European Studies

Islamic Studies

Italian

Linguistics

Management

Mathematics

Music

Near Eastern Languages and Cultures

Oriental Languages

Philosophy

Political Science
General Requirements for the C.Phil. Degree

Requirements for the C.Phil. are identical with those for advancement to candidacy for the Ph.D. (see the following heading) with the exception that the student must have completed four quarters of academic residence, including three quarters (ordinarily the last three) in continuous residence at UCLA. You may obtain further information from the department in which you wish to study.

The Doctoral (Ph.D.) Degree at UCLA

The doctorate is awarded to students who have displayed understanding in depth of the subject matter of their discipline as well as ability to make original contributions to knowledge in their field. The degree is an affidavit of critical aptitude in scholarship, imaginative enterprise in research, and proficiency and style in communication.

The Doctor of Philosophy Degree

The Ph.D. degree at UCLA is offered in the following departments:

- Anatomy
- Anthropology
- Applied Linguistics
- Archaeology
- Art History
- Astronomy
- Atmospheric Sciences
- Biochemistry
- Biological Chemistry
- Biology
- Biometrics
- Biostatistics
- Chemistry
- Classics
- Comparative Literature
- Computer Science
- Economics
- Education
- Engineering
- English
- Experimental Pathology
- French
- Geochronology
- Geography
- Geology
- Geophysics
- Space Physics
- Germanic Languages
- Hispanic Languages and Literatures
- History
- Indo-European Studies
- Islamic Studies
- Italian
- Kinesiology
- Library and Information Science
- Linguistics
- Management
- Mathematics
- Medical Physics
- Microbiology
- Microbiology and Immunology
- Molecular Biology
- Music
- Near Eastern Languages and Cultures
- Neuroscience
- Oriental Languages
- Pharmacology
- Philosophy
- Physics
- Physiology
- Political Science
- Psychology
- Public Health
- Romance Linguistics and Literature
- Slavic Languages and Literatures
- Sociology
- Special Education
- Theater Arts
- Urban Planning
- Interdepartmental Programs:
  - Joint program with California State University at Los Angeles

Other Doctoral Programs

Additional doctoral programs other than the Ph.D. at UCLA include:

- Education (Ed.D.): Environmental Science and Engineering (D.Env.); Public Health (Dr.P.H.); Social Welfare (D.S.W.).

Requirements for Doctoral Degrees Other than the Ph.D.

For doctoral degrees other than the Ph.D. there may be specific University minimum requirements in addition to those described above. Requirements for these degrees are described in the sections of this Catalog devoted to the appropriate schools, and further information may be obtained from the announcements of these schools and from the graduate advisors.

Individual Ph.D. Program

The Individual Ph.D. Program has been established to allow superior students to pursue well-defined, scholarly, coherent programs that cannot be carried out within any existing doctoral program on any campus of the University of California. To be approved for an Individual Ph.D. Program, a student submits a proposal to the Graduate Council after having been a full-time graduate student at UCLA for at least one year. You normally meet these requirements by completing one language before the oral qualifying examination. You may take French, German, Russian, and Spanish examinations which the Educational Testing Service (ETS) offers at UCLA and at other locations throughout the United States several times a year. In other languages, examinations are administered by foreign language departments at UCLA. When language requirements are to be fulfilled by ETS examinations, prospective graduate students are normally encouraged to take these examinations while still juniors and seniors if possible, and their scores, if sufficiently high, will satisfy foreign language requirements for their graduate degrees. UCLA requires a minimum ETS score of 500 for passing.

You should direct your questions on foreign language requirements to departments; questions about the examinations should be directed to the Language Examination Coordinator, Student and Academic Affairs Section, Graduate Division, or to the Educational Testing Service, Box 955, Princeton, New Jersey 08540. See also the Announcement of the Graduate Division for a chart summarizing departmental foreign language requirements.

Academic Residence

You complete at least two years of academic residence in graduate status at the University of California, including one year, ordinarily the second, in continuous residence at UCLA. In most cases a longer period of academic residence is necessary, however, and from three to five years is generally considered best. You are in academic residence if you complete at least one course (4 units) in either graduate or upper-division work during a quarter.

Qualifying Examinations

At an appropriate time in the doctoral program, written qualifying examinations are administered by a departmental guidance committee. After successful completion of these examinations and of
part or all of the foreign language requirement, a doctoral committee is formally appointed by the Dean of the Graduate Division to conduct the oral qualifying examination and supervise the research and writing of the dissertation.

**Advancement to Candidacy**

After you have successfully completed the oral qualifying examination, you are eligible for advancement to candidacy.

**Dissertation**

The candidate demonstrates ability for independent investigation by completing a dissertation in the principal field of study. Your choice of subject must be approved by your doctoral committee, which also reviews and approves the dissertation prospectus and guides you in the research and writing. The Manuscript Advisor for Theses and Dissertations, located in the Office of the University Archivist, Powell Library, and the UCLA publication, *Standards and Procedures for Advanced Degree Manuscript Preparation*, provides guidance in the final preparation of the manuscript. Members of the Doctoral Committee and the Dean of the Graduate Division approve the completed dissertation.

**Final Oral Examination**

A final oral examination may be required at the option of the members of the doctoral committee who are to approve the dissertation, and in some departments it may be required of all candidates. You should consult your doctoral committee chairman or departmental graduate advisor for further information.

**In-Candidacy Fee Offset Grant Program**

An In-Candidacy Fee Offset Grant Program has been established to provide an incentive for early advancement to candidacy and for completion of degree requirements within a normative time set by the department and subject to the approval of the Graduate Council. The grant covers the Educational Fee (presently $120 per quarter). For a complete description of this program, see section on Financial Aid (graduate aid available).

**Change of Major**

A continuing graduate student may petition for a change of major after discussing his/her plans with his/her department. Forms for this purpose are available in the Graduate Division, Student and Academic Affairs Section, 1225 Murphy Hall, and should be returned to that office. The student must be coded in the department in which he/she is to receive his/her degree at the time the degree is awarded. Also, enrollment is processed by college major codes on the registration materials, unless a copy of the approved major change is filed with the Study List Card.

**Grades**

The work of all graduate students is reported in terms of the following grades: "A" (superior achievement), "B" (satisfactorily demonstrated potentiality for professional achievement in the field of study), "C" (passed the course but did not do work indicative of potentiality for professional achievement in the field of study), "F" (fail), "I" (Incomplete), "IP" (in progress), "DR" (deferred). A grade of "A" is reported only if the student demonstrates ability for independent investigation by completing a dissertation in the principal field of study. The passing grades "A", "B", and "C" are modified by plus (+) or minus (-) suffixes. Grade points per units are assigned by the Registrar as follows: "A+" carries 4.0 grade points per unit; the same as for an unsuffixed "A", but when "A+" is reported it represents extraordinary achievement. Courses in which a student receives an S grade may be counted in satisfaction of degree requirements, but courses in which either an S, U, DR, I, or IP has been awarded are disregarded in determining a student's grade point average. The grades "A", "B", and "S" denote satisfactory progress toward a degree. A graduate student is subject to dismissal if his/her cumulative grade point average falls below 3.0.

**"S" and "U" Grades**

With the approval of the Graduate Council, and the consent of the departments involved, individual study or other work undertaken for credit toward a degree by a graduate student may be evaluated by means of the grades "S" and "U". A graduate student in good standing may enroll each quarter in one hundred, two hundred or four hundred series course graded on an "S"/"U" basis. The grade "S" is awarded if the student's work is of passing quality, but is incomplete. The grade "U" is awarded only for work which would otherwise receive a grade of "B" or better.

**"IP" Grades**

For courses authorized to extend over more than one quarter and where evaluation of the student's performance is deferred until the end of the final term, a provisional grade of (In Progress) is assigned in the interim (IP) credit, the student completes the full sequence. The Graduate Council is authorized to regulate the award of credit in cases where the full sequence is not completed. Authorization of the granting of IP grades in graduate courses shall be by the Graduate Council.

**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 upon receipt of an instructor's report that a clerical or procedural error is the reason for the change; or upon written request of the Chairperson of the Division in cases where it has been determined by the Committee on Privilege and Tenure that an instructor has assigned a grade in any other basis than academic grounds. No change of grade may be made on the basis of re-examination, 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 chairperson. Any grade change request made by an instructor who has left the University must be countersigned by the department chairperson.

**Repetition of Courses**

Repetition of courses other than those authorized by the Committee on Undergraduate Courses and Curricula or the Graduate Council to be taken more than once for credit, is subject to the following conditions:

A student may repeat only those courses in which a grade of "D", "F", "NP", or "U" has been received. Courses in which a grade of "IP" or "IP" has been received may not be repeated on a "P/NP" or "S/U" basis.

Repetition of a course more than once requires approval by the Dean of the Graduate Division in all instances.

**The DR Grade**

The grade DR (deferred report) is entered on the student's record: a) when to the faculty member's knowledge, the student's work in the course is complete, but the faculty member is not able to assign a grade; or b) when disciplinary proceedings are in progress. The DR is not calculated in any way in the student grade point average. The DR is changed to a grade of "F" only when he/she has completed the work or when the Registrar receives a written request from the instructor which indicates that the student has clarified the situation. The report of the grade DR must be accompanied by a letter from the instructor to the Dean of the school or college, and to the student stating the basis of the action. For students enrolled in a course approved by the Graduate Council, the Dean of the Graduate Division is the dean of record. The Dean establishes a date or a specific circumstance terminating the "F" period of the DR report and informs the Registrar, the instructor and the student. Unless changed by the instructor as specified in the preceding paragraph, the DR automatically becomes an F grade.

**The "I" Grade**

The grade "I" may be assigned when a student's work is of passing quality, but is incomplete. The grade "I" is only assigned when the student establishes to the instructor's satisfaction that his/her work is complete except for the final report. The grade "I" is not good cause and is completed. In order for the granting the grade "I" which will contain both the reason for the condition to be met before the grade "I" can be replaced by a passing grade. The student is entitled to have the grade "I" replaced by a passing grade and to receive unit credit and grade points provided he/she satisfactorily completes the work of the course by the end of the next full quarter that he/she is in residence in regular session following the quarter in which the "I" was received. If the student is enrolled the Division has authority to extend the deadline for completion in the event of unusual circumstances that would clearly impose an unfair hardship on the student if the original deadline were maintained. If the work is not completed, the grade "I" is automatically replaced with F, NP or U as appropriate.

The Graduate Council may establish rules under which the authority to approve extended extensions of time for graduate students is delegated to departmental advisors.

See the academic calendar at the beginning of this Catalog.

**Concurrent Degree Programs**

Concurrent degree programs have been established in the disciplines listed below. Concurrent programs have the advantage of allowing the student to acquire the two degrees in less time than normally required. Required courses for the two degrees are taken in sequence. The aim of these programs is to provide an integrated curriculum of greater breadth between the two disciplines. Inquiries should be directed to the departments or schools involved.

**Economics, M.A. — Law, J.D.**

Latin American Studies, Interdepartmental M.A. — Management, M.B.A.


Management, M.B.A. — Public Health, M.P.H.
Interdepartmental Degree Programs

In addition to graduate degree programs offered in schools and departments, interdisciplinary graduate programs, involving two or more participating departments, are also offered. These programs are administered by interdepartmental faculty committees appointed by the Dean of the Graduate Division, acting for the Graduate Council.

African Area 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.)
 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.)

If you would like further information, please refer to the Announcement of the Graduate Division which is available on a space available basis, to students, faculty and visiting scholars. Complete information is available by writing to the Secretary, University of California Language Training Advisory Committee, Room 103, Classroom Unit 1, University of California, Santa Cruz, California 95064, or call UC Santa Cruz extension 2054 (message center 2900).

Special Programs

The UCLA Graduate Division provides a variety of special programs to students, faculty and visiting scholars.

Certificate Programs

UCLA offers graduate programs leading to the following certificates: Certificate of Specialization in Engineering and Applied Science (School of Engineering and Applied Science), Certificate in the Teaching of English as a Second Language (Department of English), Certificate of Specialization in Library and Information Science (School of Library and Information Science), Certificate of Postgraduate Medical Education for faculty and residents (School of Medicine), postgraduate certificate programs in Dentistry (School of Dentistry). Further information can be obtained from the dean of the appropriate school or the departmental graduate advisor.

Foreign Language Training

Research and field work overseas may be facilitated by oral proficiency exams, and application forms, may be obtained from the Graduate Division. The Intercampus Exchange Program makes possible research in any of thirty-four departments, are also offered. These programs are administered by interdepartmental faculty committees appointed by the Dean of the Graduate Division, acting for the Graduate Council.

African Area 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.)
 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.)

If you would like further information, please refer to the Announcement of the Graduate Division which is available on a space available basis, to students, faculty and visiting scholars. Complete information is available by writing to the Secretary, University of California Language Training Advisory Committee, Room 103, Classroom Unit 1, University of California, Santa Cruz, California 95064, or call UC Santa Cruz extension 2054 (message center 2900).

Each year thirty persons certified by the University of California Language Training Advisory Committee may be admitted. Complete information is available by writing to the Secretary at the above address.

Departmental Scholar Program

Departments may nominate exceptionally promising undergraduate students (juniors and seniors) as Departmental Scholars to pursue bachelor's and master's degree programs simultaneously.
Qualifications include the completion of 24 courses (96 quarter units) at UCLA, or the equivalent at a similar institution, and the requirements in preparation for the major. To obtain both the bachelor's and master's degrees the Departmental Scholar must be provisionally admitted to the Graduate Division. Requirements for each program must be fulfilled and a minimum average of "B" maintained. No course must be used to fulfill requirements for both degrees.

The department chairperson submits nominations to the dean of the undergraduate program for recommendation to the Dean of the Graduate Division, on or before the application dates for admission to graduate standing. Interested students should consult their departments well in advance of these dates for admission to graduate standing.

Under provisional admission to the Graduate Division, Departmental Scholars are accorded the usual privileges of graduate students with the exception of leaves of absence and participation in the Inter-campus Exchange Program.

Education Abroad Program

Graduate students may, with the approval of the departmental graduate advisor and the Dean of the Graduate Division, participate in the Education Abroad Program at the University's study centers overseas. This program is discussed fully in the "Academics: resources to help you" section of this Catalog. Such students remain under the academic direction of their home campus graduate advisor but may seek assistance from the Director of the Study Center when appropriate. Participation in the Education Abroad Program may prove especially valuable to doctoral candidates who have been advanced to candidacy and are engaged in independent study and research directed toward their dissertations. By approval of the Graduate Council, courses may be applied toward an advanced degree shall be accepted only under all of the following conditions: a) students, after returning, must present a transcript (or equivalent) showing work done under the Education Abroad Program; b) the major department indicates its approval of those courses which it recommends for credit toward an advanced degree; c) the recommendations of the department are then submitted to the Dean of the Graduate Division for approval. For further information, graduate students should consult the Education Abroad Office, 2221-B Bunche Hall, where applications may be obtained. A graduate student is eligible to participate after completion of one full academic year of study at a UC campus. After approval by the department and the Graduate Division, applications should be filed with that office well in advance of the planned period of study.

The Graduate Cross-Enrollment Program

As an integral part of a Regentally-approved program in Academic Resource Sharing, which links UCLA with USC, the Graduate Cross-Enrollment Program makes possible graduate student exchanges in many departments. The program is limited to specialized course offerings which would not otherwise be available to UCLA students.

With the approval of the instructor and department chairperson on the host campus, the UCLA student signs up for a 501 course with a UCLA advisor and completes the College and University Regional Student Exchange Petition for Enrollment and Certification of Grade. The completed form must be filed with the Graduate Dean's Office on the host campus before the third week of the quarter in which 501 credit is requested. Upon completion of the period of study at the host institution, you will be evaluated by the instructor on that campus, who will forward your grade (S or U) to the UCLA graduate advisor, to be recorded against the 501 course and submitted to the UCLA Registrar. There is a credit limit of 8 units of such courses applicable toward the requirements for the master's degree. These 8 units cannot be used to satisfy the 5-graduate course requirements.

The UCLA student must have completed at least a year of graduate study in the University before permission to cross-enroll will be granted. Library privileges will be extended outside the University only on another campus. Applications must be submitted by the third week of the UCLA quarter in which 501 credit is requested. Upon completion of the period of study at the host institution, you will be evaluated by the instructor on that campus, who will forward your grade (S or U) to the UCLA graduate advisor, to be recorded against the 501 course and submitted to the UCLA Registrar. There is a credit limit of 8 units of such courses applicable toward the requirements for the master's degree. These 8 units cannot be used to satisfy the 5-graduate course requirements.

The Graduate Advancement Program

The Graduate Advancement Program was established to increase the graduate enrollment of students from those groups which, as a result of economic or societal inequities, have been only minimally represented in the University. Financial support is available for students from groups with historically low participation in graduate work such as American Indians, Asian Americans, Blacks and Chicanos, in graduate study leading to the master's or doctoral degree in the sciences, humanities, social sciences, and the arts, including the Schools of Architecture and Urban Planning, Library and Information Science and Education.

Out-of-state applications in the applied and pure sciences are particularly encouraged, as well as those fields in which manpower availability pools for ethnic minorities must be increased. Applicants must be U.S. citizens or permanent California residents and admitted to graduate status, in order to be eligible for these awards. In certain instances, an additional departmental application for admission is required. Students should check with the major department for full details on admission requirements. Students interested in the professional fields listed below should address their inquiries to the professional school of their choice.

Management

Dentistry

Engineering

Computer Science

Law

Medicine

Nursing

Public Health

Social Welfare

Applications for all other areas of study may be obtained by contacting the Graduate Advancement Program, Room 1248 Murphy Hall.

Awards are made on the basis of academic record and promise and are need limited. A financial aid application must be submitted. A limited number of awards are in the form of fellowship grants. Others are a combination of grant, work study and loan to cover fees and to provide a modest living allowance.

Counseling and Academic Assistance: Retention and Success. The Intercampus Exchange Program.

The Intercampus Exchange Program makes resources on all campuses of the University of California available to graduate students in good standing who have completed at least one quarter of graduate study in the University. It is reserved for use by those students whose graduate study may be enhanced by work with distinguished faculty or use of facilities and resources accessible only on another campus. Applications must be
approved by the graduate department chairperson in your home department and by the department chairperson in the department (or departments) in which you expect to work at the host campus, as well as by the Deans of the Graduate Divisions on both campuses. You will register, pay fees, earn credit toward academic requirements, and be considered in residence on your home campus but the host campus will provide library, student health services, and other facilities. Course grades will be transferred to the home campus.

Application forms for the Intercampus Exchange Program are obtained from the Graduate Division at the student's home campus and should be filed at least four weeks before the beginning of the quarter in which the student expects to enter graduate study. UCLA graduate students may obtain application forms from the Student and Academic Affairs Section of the Graduate Division, in 1225 Murphy Hall, telephone 825-4226.

It is your responsibility to make sure that you are registered at both your home and host campuses. Information regarding UCLA registration may be obtained from the Registration Clerk, Murphy Hall, 825-1092.

Postdoctoral Scholars

Opportunities and facilities of the University may be made available for a period of one to three years to qualified scholars holding doctoral degrees, or their foreign equivalents, who wish to engage in further supervised advanced study and research under academic supervisors but not leading to a degree. Postdoctoral Scholar Status is limited to a maximum of three years. The date the individual's doctorate is awarded determines the maximum length of enrollment. Scholars have to enroll within three years of the receipt of their qualifying degrees in order to be eligible for the three-year maximum. Individuals may enroll for lesser periods, provided their degrees were awarded before a six-year time period following the receipt of the doctoral degree. The qualifying doctorate is a Ph.D. or its foreign equivalent, or in the case of a professional degree, after completion of postdoctoral clinical residency training. All Postdoctoral Scholars must be formally accepted by a department or other academic research unit and enroll with the Graduate Division for the primary purpose of research and training, approved by the chairperson of the department or other academic research unit and by the Dean of the Graduate Division. There is no enrollment fee, and Postdoctoral Scholars are entitled to use of libraries, auditing privileges, purchase of student health services, and a faculty athletic privilege card. Upon satisfactory completion of the program of research and training, a Certificate of Postdoctoral Study is awarded.

Teaching and Other Advanced Credentials for Public School Service

Graduate students in credential programs for teaching and other public school service, who are not also candidates for advanced degrees, are referred to the Graduate Advisor, Office of Student Services, Graduate School of Education.

Visiting Scholars

Facilities of the University are made available whenever possible to senior scholars and distinguished visitors with doctoral degrees from U.S. institutions or their foreign equivalents, who wish to become associated with UCLA to pursue independent research or advanced study for a limited period of time in the University's existing programs or new ones. Such persons are "Visiting Scholars." Ordinarily, they are self-supported or provided with adequate support funds from other sources outside the University. Thus, they should be clearly distinguishable from Postdoctoral Scholars who "enroll" with the Graduate Division for an approved postdoctoral research or training objective under faculty supervision, and from academic appointees who are primarily employees.

Prospective Visiting Scholars should communicate in advance with the Chairperson of the Department, or head of the academic unit, with which they wish to become associated. On recommendation of the Chairperson of the Department, indicating that the necessary faculty sponsorship and facilities are available, formal invitations are issued by the Dean of the Graduate Division. General information on Visiting Scholar status and privileges may be obtained from the Fellowship and Assistantship Section of the Graduate Division.

Need to Know More?

This introduction to the processes and procedures for graduate study at UCLA has been organized into a separate section for ease of reference only. Graduate students at UCLA play an important role in campus and departmental decision-making and are entitled to take advantage of the varied opportunities which life as a UCLA student offers. Some of these involvement avenues are described in the "recreation and participation" section of this book.

Financial Aid information can be found under the "money" section; additionally, "Passing the Bucks" a publication of the Financial Aid Office, is available from the Financial Aid Office A129 Murphy Hall, University of California, 405 Hilgard Avenue, Los Angeles, CA 90095. Admission information may be located under the section bearing that title.

Prospective graduate students should get a copy of the Announcement of the Graduate Division for a full explanation of the topics discussed in this section. It is available in the Graduate Admissions Section of the Graduate Division. Registered graduate students should obtain a copy of Standards and Procedures for Graduate Study at UCLA (I) from the Student and Academic Affairs Section, 1225 Murphy Hall, telephone 825-4226.

Finally, close personal contact between students and their academic departments is the centerpiece of graduate study here. Departmental advisors and counselors can offer guidance on a more personal level. The Psychological and Counseling Services in Murphy Hall, 1225 Murphy Hall, 4223 Math Sciences and the Placement and Career Development Center, located just south of Powell Library also provide informed guidance. Foreign students are encouraged to get in touch with the Office of International Students and Scholars, 297 Dodd Hall.

The School of Architecture and Urban Planning

If you are interested in the academic and professional preparation offered by the School of Architecture and Urban Planning, you are urged to request a copy of the Announcement of the School by writing to the Graduate Advisor, 416 Murphy Hall, telephone 825-8787 or by telephoning the Graduate Division, telephone 825-7857 or 825-8957, or by writing to the School of Architecture and Urban Planning, UCLA, 405 Hilgard Avenue, Los Angeles, CA 90095. You can find detailed course descriptions in the "course section" of this Catalog.

General Description

The 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, and Ph.D. in Urban Planning. Currently, the School offers educational opportunities for a broad spectrum of careers, including a number of careers that are not yet common in practice, but which reflect emerging professional needs. The programs of the School of Architecture and Urban Planning at UCLA reflect the University's concern with the escalating problems of the changing urban environment and its largely untapped potential.

In order to relate closely to public affairs and practitioners in the field, the School has established the Urban Innovations Group. The Urban Innovations Group (UIG) undertakes "real-world" projects to provide the individual with opportunities to gain practical experience. It also affords faculty opportunities for professional service. Reflecting the nature of the problems and the opportunities associated with the creation and maintenance of environment of the future, the projects are ongoing and programmatic. They range from pure research, applied research, development and prototype testing to full scale implementation. UIG projects are bridged between pure academic pursuits and professional practice.

Architecture and Urban Design

In an increasingly urban civilization, the unprecedented rate of growth of the world's population places increasing demands on the architecture profession to provide for the individual's needs to live and work in close proximity with other people. A new technology of city building is being evolved to keep pace with the accelerated rate of urban growth. Advances in methods of construction, building economics and organization, together with insights gained in the social and behavioral sciences, place at our disposal new resources with which to respond to the urban challenge. This enormous undertaking demands a group of professionals who can direct diverse forces toward the realization of better environments. The field of architecture, like so many of our professions and institutions today, is undergoing radical change. The old pattern of architectural practice as something that transpires between an individual architect and the client is no longer valid. The new pattern of the large architectural office serving a corporate client's needs may also fade. A more radical view of the architect is emerging. Increasingly, the architect offers professional services as a member of an interdisciplinary team of problem-solving specialists. In fulfilling this role the architect will have to become a specialist; thus, the term "architect" in the future will have many specialized meanings.

Therefore, the program in Architecture and Urban Design is organized around areas of study which represent major concerns within the fields of architecture and urban design.

Projects in Architecture and Urban Design

Students will approach problem analysis and design methods to environmental problems combined with environmental concerns. The ability to analyze and conceptualize specific designs will be acquired as you participate, individually or in teams, in projects which vary in scale and complexity from the design of individual components to urban systems.


Methodology and Computer-Aided Design

Courses in methodology, modeling, and computer-aided design are intended to introduce the role of
systematic, logical methods in architectural and urban design, and to provide a background in the necessary analytical and computational skills necessary for application of those methods in practice. The advanced courses usually deal with research topics.


Environmental Technology

Students will explore the technological elements of the built environment and architectural scale, with particular emphasis on comprehensive views to design problem-solving. Projects include climatology, construction, environmental controls, energy, life safety, materials, services, structures, etc.


Socio-Physical Research and Design

The purpose of this portion of the curriculum is to expand awareness in the area of overlap between psychology and architecture, and to increase technical proficiency in these areas. Areas could be called overt behavior or form/behavior relation, cognitive processes in design, and social/ethical issues.


Architectural and Urban Analysis

Courses in this area will examine properties and relations of the elements of architecture and the urban environment. The need and behavior of individuals and groups will be studied with respect to their mutual inter-relation in order to understand the environmental consequences. Emphasis is on exact methods of analysis.


Environmental Management

Subject matter will include the development of management procedures for forecasting, planning and designing the systems of the physical environment. On the assumption that architects and urban designers will become agents of change who will act upon the future physical environment, the forms of organization to fulfill this role are examined. Introduction and management of innovation in the architecture and urban design professions, both in theory (teaching and research) and practice (Urban Innovations Group Workshop) are also stressed.


Theory, History and Criticism

Theory, history, and criticism support the field of architecture and urban design as both an activator of the professional discipline as well as the repository of its accumulated knowledge, values, and philosophies. Work in this area develops conceptual frames of reference by which the project and its context are defined. It also examines the criteria for analysis and evaluation, probes the methodologies underlying the design process, and stimulated an awareness of the evolution of society and culture as the context within which architectural and urban design is manifested.


Special Studies


The Degree of Master of Architecture

The School of Architecture and Urban Planning offers two degree programs leading toward a degree of Master of Architecture (M. Arch.)

The First Professional Degree Program (M. Arch. I.)

Description

The objective of this program is to provide the basic professional education necessary for the practice of architecture and urban design, as they are evolving today and in the future. The competence and sensitivity demanded of an environmental designer in turn require intensive exploration of a number of subject areas, and the ability to organize and purposefully integrate widely varied forms of information required within the framework of a curriculum, a structured sequence of lectures, seminars and design projects is complemented with individual and group extracurricular work intended to exemplify both usual and unusual forms of professional activity. The M. Arch. I Program is officially accredited by the National Architectural Accrediting Board (NAAB).

Requirements

As a student enrolled in the program leading to the M. Arch. I degree, you will be required to meet the standards described below.

Required Courses

The following courses must be taken, in the sequence indicated. Students with previous background in the topic covered by any of the required courses may apply to the Curriculum Committee to waive specific required courses and replace them with electives. However this will not reduce the minimum number of 27 courses required in the M. Arch. I program or the three-year residency requirement. All students must maintain a 3.0 B grade-point average in all courses.

First Year

Fall 411 Introductory Design Studio
421 Basic Design I
191 Modern Architecture
Winter 412 Building Design Studio
437 Building Construction
431 Structures I
Spring 413 Building Design With Landscape Studio
442 Building Climatology
432 Structures II

Second Year

Fall 414 Major Building Design Studio I
433 Structures III
Elective
Winter 415 Major Building Design Studio II
441 Environmental Control Systems
Elective
Spring 401 Elective Studios and Projects
Elective
Elective

Third Year

Fall 401 Elective Studios and Projects
Elective
Elective
Winter 416 Comprehensive Design Studio
461 Professional Practice and Ethics
Elective
Spring 598A Thesis Preparation
Elective

Elective Courses

Elective course offerings are designed both to allow students to explore specific subject areas in depth and to gain a breadth of exposure to different topics. You are required to take at least seven elective courses. At least four of these must be taken within the School of Architecture and Urban Planning. It is intended that elective studios and projects courses taken in the Spring of the second year and the Fall of the third year will be prepared for, by taking appropriate lecture and seminar courses. Many of the elective seminar courses are organized into sequences leading up to specific studio or project courses. At least two of the electives taken in the second year must be in preparation for undertaking a specific studio or project course in the Spring of the second year or Fall of the third year. (See course descriptions for details.)

Thesis

Students are required to prepare and complete a thesis during the year immediately prior to graduation. The thesis may take the form either of an independent design project or an independent piece of research. Each year, a single committee will be formed to supervise the work of all students choosing to undertake thesis projects. Each student who chooses to undertake a research thesis may nominate a three-person committee to supervise this work. Two members of this committee, including the chairperson, must be from the Architecture/Urban Design faculty.

Admissions

For admission to this program, all applicants must first meet the entrance requirements of the Graduate Division of the University, including a
The Second Professional Degree Program (M. Arch. II)

Advanced graduate studies in Architecture and Urban Design at UCLA, with an emphasis on professional studies, gives students the opportunity to explore in depth certain areas of professional and academic specialization. An innovative attitude toward the future of the architectural profession is emphasized and is explored in seminars, projects and field experience.

Areas of specialization are offered in Theory and Methods and in Professional Applications. In certain primary areas of specialization a Letter of Certification is conferred at graduation.

Requirements

You are expected to be in residence at UCLA for at least two years and undertake at least six quarters of work.

A thesis is required. Three faculty members (at least two from SAUP) will serve as members of the Thesis Committee. When all three have signed the thesis proposal, you may sign up for Preparation for Thesis course (598) and begin work on the thesis itself. This course should be taken at some point during the last year of study.

Students working towards a professional degree, M. Arch. II (Master of Architecture), are required to complete a minimum of eighteen courses with a total of at least 72 units distributed in the following way:

1. One core sequence should be chosen from the area of Theory and Methods (3 courses).

Areas currently being offered are: (1) Design Methods, (2) Systems Building, (3) Energy-Conerving Design, (4) Social Building, (5) Computer Aided Design, (6) Open (course sequences to be arranged in response to individual student's needs).

2. One core sequence should be chosen from the area of Professional Application (3 courses).

Areas currently being offered are: (1) Urban Design, (2) Housing, (3) Health Care Facilities, (4) Open (course sequences to be arranged in response to individual student's needs).

3. One of the above cores should be taken as a primary area of specialization and the other one as a secondary area. In the primary area of specialization students are advised to take all the recommended courses. The secondary area may be taken as a sequence of courses only.

Additional Requirements

1. Eleven courses are to be electives. Among these are the recommended courses in the area of primary specialization. Three electives may be taken at large from upper division or graduate courses offered campuswide. For students requiring greater interdisciplinary study permission may be granted by the Curriculum Committee to increase this number.

At least five of the above courses must be numbered in the 400 professional series. Three of these must be courses 401, 402, or 403.

2. A thesis is required. Three faculty members (at least two from SAUP) will serve as members of the Thesis Committee. When all three have signed the thesis proposal, the student may sign up for Preparation for Thesis (course 598) and begin work on the thesis itself. The 598 course should be taken at some time during the last year.

3. Students working toward an M.A. are required to complete a minimum of 16 courses (with a total of at least 64 units) of graduate or upper division work.

4. The M.A. student is required to choose one area of specialization, either in Theory and Methods or Professional Application, as listed below:

Core Sequences in Theory and Methods

Areas currently being offered are: (1) Design Methods, (2) Systems Building, (3) Energy-Conerving Design, (4) Social Building, (5) Computer Aided Design, (6) Open (course sequences to be arranged in response to individual student's needs).

Core Sequences in Professional Application

Areas currently being offered are: (1) Urban Design, (2) Housing, (3) Health Care Facilities, (4) Open (course sequences to be arranged in response to individual student's needs).

The Master of Arts Degree in Architecture and Urban Planning (Architecture and Urban Design Program)

The Master of Arts in Architecture and Urban Planning in the Architecture and Urban Design Program is available to students holding a Bachelors degree in Architecture (5 years), a Bachelor of Arts in Architecture (4 years), or a Bachelor or Masters degree in related fields, including anthropology, geography, planning economics, human factors, psychology, and sociology, who wish to pursue more academic orientation. This path of study will prepare students for one or more specialized research and teaching functions related to the profession of architecture and urban design.

The advanced graduate studies in Architecture and Urban Design at UCLA with an emphasis on research and teaching, give students an opportunity to explore in depth certain areas of specialization. An innovative attitude toward the future of the architectural profession is emphasized and is explored in seminars, projects and field experience.

Requirements

As a student enrolled in the program leading to the Master of Arts in Architecture and Urban Planning (Architecture and Urban Design Program), you will be required to meet the standards described below:

1. Students are expected to be in residence at UCLA for at least two years and undertake at least six quarters of work.

2. A thesis is required. Three faculty members (at least two from SAUP) will serve as members of the Thesis Committee. When all three have signed the thesis proposal, the student may sign up for Preparation for Thesis (course 598) and begin work on the thesis itself. The 598 course should be taken at some time during the last year.

3. Students working toward an M.A. are required to complete a minimum of 16 courses (with a total of at least 64 units) of graduate or upper division work.

4. The M.A. student is required to choose one area of specialization, either in Theory and Methods or Professional Application, as listed below:

Core Sequences in Theory and Methods

Areas currently being offered are: (1) Design Methods, (2) Systems Building, (3) Energy-Conerving Design, (4) Social Building, (5) Computer Aided Design, (6) Open (course sequences to be arranged in response to individual student's needs).

Core Sequences in Professional Application

Areas currently being offered are: (1) Urban Design, (2) Housing, (3) Health Care Facilities, (4) Open (course sequences to be arranged in response to individual student's needs).

Additional Requirements

In addition to the currently offered core sequences, an "open option" in each category is available to students who enter with their own specific and well defined program of study. Proposals for this open option require prior approval by the Curriculum Committee.

You are urged to state areas in which you propose to specialize, and you are required to commit yourself in your application for admission to these approved areas by the beginning of the second quarter. Work on the thesis is to be in the chosen area of specialization.

Each of these areas consists of an organized sequence of three core courses including a minimum of one project course and a number of related highly recommended courses. Certain core sequences are offered only every other year. Core sequences may be introduced, deleted or changed from year to year, contingent upon faculty availability and student need.

In addition to the currently offered core sequences, an "open option" in each category is available to students who enter with their own specific and well defined program of study. Proposals for this open option require prior approval by the Curriculum Committee.

You are urged to state areas in which you propose to specialize, and you are required to commit yourself in your application for admission to these approved areas by the beginning of the second quarter. Work on the thesis is to be in the chosen area of specialization.

Each of these areas consists of an organized sequence of three core courses including a minimum of one project course and a number of related highly recommended courses. Certain core sequences are offered only every other year. Core sequences may be introduced, deleted or changed from year to year, contingent upon faculty availability and student need.

In certain primary areas of specialization a Letter of Certification is conferred at graduation.

5. Seven courses may be taken from upper division or graduate courses offered campuswide.

6. The University of California minimum requirements for the Master of Arts degree must be completed.

You are urged to state areas in which you propose to specialize, and you are required to commit yourself to these approved areas by the beginning of the second quarter. Work on the thesis is to be in the chosen areas of specialization, and may not be commenced until the required courses have been completed.

Admission

For admission to this program, all applicants must first meet the entrance requirements of the Graduate Division of the University, including the grade average of "B" or better. In addition, the School of Architecture and Urban Planning requires that the applicant hold the degree Bachelor of Architecture (B. Arch) from an accredited school, and submit the material outlined in the Departmental Application Form. Particular emphasis is placed on the Statement of Purpose, letters of recommendation, evidence of professional quality, creative or analytic ability in either graphic, written, or mathematical form.

Good command of spoken and written English is essential and is explored in seminars, projects and field experience.

Additional Requirements

In addition to the currently offered core sequences, an "open option" in each category is available to students who enter with their own specific and well defined program of study. Proposals for this open option require prior approval by the Curriculum Committee.

You are urged to state areas in which you propose to specialize, and you are required to commit yourself in your application for admission to these approved areas by the beginning of the second quarter. Work on the thesis is to be in the chosen area of specialization.
analytic ability in either graphic, written, or math ematical form.

Good command of spoken and written English is absolutely essential and no foreign student will be allowed to attend classes until the Graduate Divi sion's English fluency exam has been passed and any required remedial studies are completed.

Additional information about the program may be obtained by writing directly to the Graduate Advisor of the Architecture and Urban Design Program School of Architecture and Urban Planning, UCLA, 405 Hilgard Avenue, Los Angeles, California 90024.

The Urban Planning Program

The Urban Planning Program in the School of Architecture and Urban Planning offers a cur riculum leading both to the Master of Arts and the Ph.D. degrees. The normal route of study requires two years of course work for the Master's. The Ph.D. program generally requires at least two years of study beyond the M.A. and prior to beginning dissertation research. This allows a student to pursue the area of planning studies in greater depth and to acquire a higher degree of competence in the relevant skills than is possible in the two years at the Master's level.

The curriculum is organized so that a student may obtain at the Master's level not only a theoretical and practical understanding of urban and planning processes, but also acquire a working knowledge of advanced analytical techniques for planning, capa bilities for carrying out evaluations of complex urban phenomena, and critical interactive and learning skills.

An important aspect of education in the Urban Planning Program is the opportunity for organized field work and internships as well as for applied research. Opportunities for applied research vary from year to year, and include internships, but are not limited to, research on social indicators for moni toring changes in metropolitan areas, comparative studies in urbanization and planning environmen tal impact analysis, environmental evaluation, transportation for the elderly, and transfer of knowledge to Third World countries.

The Master of Arts Degree in Architecture and Urban Planning (Urban Planning Program)

Areas of Policy Concentration

As a student working toward the Master of Arts degree in the Urban Planning Program, you may choose one of five existing Areas of Policy Concentration (APC). The first, Urban-Regional Development Policy, concerns planning for broad social and economic objectives of suburban development. This APC provides a framework for policies planning in housing, urban renewal, urban-regional economic growth, and urbanization in industrializing countries, among others.

The second, Public Service Systems, is concerned with knowledge about the general system embracing services that are supplied publicly or semi-pub licly, the specific sectors or services comprising this system, and analytical techniques for planning and evaluating the delivery of public services such as transportation, education, housing, health and recreation.

The third, Environmental Planning and Management, deals with the quality of the physical environment in rural and urban areas. The major areas of concern here are land use planning, environmental impact studies, and residuals management.

The fourth area, Social Development Policy, is concerned with policy aspects of human development, community-neighborhood development, community organization and collective action, and the analysis of the social implications of planning and policy.

The fifth area, Urban Design, is concerned with the unique contribution that the theories, methods, and techniques evolving within urban planning can make to the field of urban design and with the history of the build environment. In general, it is concerned with the interplay between urban planning and architecture.

In addition to the preceding structured APC's, students may devise their own "Sixth APC" in consultation with appropriate faculty members.

Core Curriculum

Complementing their work in an Area of Policy Concentration, students elect courses from the core curriculum. Core courses are distinguished from those in the Area of Policy Concentration in that they subject matter cuts across different specializa tion. While students have learned core specialization: Professional Development, Planning Theory, Quantitative Planning Methods, Methods of Evaluation and Public Choice, and Methods of Implementation.

Unit Requirements

Specifically, the student must take 18 courses (72 units) of graduate and upper division work, of which at least 13 courses (52 units) will be graduate courses. Students may petition, however, to transfer up to 24 units of course work completed while on graduate status from another University of California campus, provided that these units were not formerly applied to another degree, and up to 8 units from other schools.

Qualification for a Degree

To fulfill the requirements of both the Graduate Division and the Urban Planning Program for the Master's Degree, students may submit either a thesis (Plan I) or take a comprehensive examination (Plan II).

The thesis is intended to provide students with the opportunity for independent scholarly research. Students choosing Plan I are expected to submit a research paper of publishable quality not to exceed in length the usual article for professional-scientific journals (up to 10,000 words).

The comprehensive examination (Plan II) may take the form of a long-term project (Plan A) or a two week examination (Plan B). Plan A is a client-oriented project recommended for students who are more interested in practical applications of what they have learned in coursework than in scholarly research. The time-span and magnitude of the final project should approximate that of a thesis. Students choosing the two-week examination (Plan B) will work in five areas of core specialization: Professional Development, Planning Theory, Quantitative Planning Methods, Methods of Evaluation and Public Choice.

The written examination (Plan II) may consist of two parts: a written qualifying examination in the core area of planning and a written qualifying examination in the area of Planning Theory. In addition, they must also pass a written and oral exam in their major field (APC) and complete requirements in the areas of quantitative methods and a minor field. After they have successfully completed these requirements, they sit for an oral candidacy examination covering the prospectus of their dissertation. After passing this examination, which is administered by the stu dent's Postdoctoral Committee, they are eligible for advancement to candidacy and may begin work on their dissertations.

The Concurrent JD/MA Degree Program

The concurrent program was established to enable interested students to receive a JD degree from the School of Law and an MA degree in planning at the completion of four years. Students interested in this program must apply and be admitted to both schools. The student's first year is spent full-time in Law School. The second and third years of study are a mixture of planning and law courses, the fourth year is spent full-time in the Planning Program.

If you are interested in more detailed information regarding any of the above planning programs, please contact the Graduate Counselor, Urban Planning Program, School of Architecture and Urban Planning, UCLA, 405 Hilgard Avenue, Los Angeles, California 90024. Telephone: (213) 825-7331.

The School of Dentistry

If you are interested in enrolling in a program of study at the UCLA School of Dentistry, you are urged to review the Announcement of the School by writing to:

Office of Student Affairs and Admissions
UCLA School of Dentistry
Los Angeles, California 90024

General Description

The UCLA School of Dentistry occupies facilities in the Center for the Health Sciences. It enrolls classes of 106 students each year in a four-year course of study leading to the degree of Doctor of Dental Surgery. Students undertake a comprehensive program in the biological and technological sciences to foster the highest standards of clinical competence in the practice of dentistry. Opportunities exist for outstanding students to graduate early or to com plete their requirements for graduation in less than four years.

Admission

Modern dentistry provides exciting opportunities for blending art and science, technology and biology. As a prescholar student, you will wish to test your ability in handling both biological and physical sciences. In addition, there are many other aspects in the broadening scope of dentistry which contribute to preparation for a career in private practice, in academic dentistry, and in the Armed Forces and Public Health Service.

The Ph.D. Degree in Urban Planning

The Ph.D. in Urban Planning requires at least two additional years beyond the Master's level prior to beginning dissertation research. The minimum requirement for admission is a Master's degree in planning or a closely related field, and a 3.5 grade point average in all graduate work completed. Students applying to the doctoral program without a Master's degree will automatically be considered for the Master's program. Subsequent admission to the Ph.D. program depends on formal application and successful review of the students work during the second year. Ph.D. students are required to pass a successfully evaluating exam in an area of Planning Theory. In addition, they must also pass a written and oral exam in their major field (APC) and complete requirements in the areas of quantitative methods and a minor field. After they have successfully completed these requirements, they sit for an oral candidacy examination covering the prospectus of their dissertation. After passing this examination, which is administered by the student's Postdoctoral Committee, they are eligible for advancement to candidacy and may begin work on their dissertations.
It is desirable, however, for predoctoral students to prepare themselves for broad professional activities. You should take advantage of the opportunities at the college level to extend your cultural background, your knowledge of languages and your familiarity with the behavioral sciences.

**Basic Requirements**

The basic educational requirement for admission to the School of Dentistry is a minimum of three years of college work (90-semester or 135-quarter units, including the courses listed under “Predental Curriculum” in the “College of Letters and Science” section of this Catalog). The maximum is 105-semester or 150-quarter units of junior college work (applied in calculating this total). It is significant to note that the majority of applicants admitted to the UCLA School of Dentistry have had more than three years of college experience, and that most possess a bachelor's degree. Since UCLA is a state-supported institution, California and WICHE certified applicants are given considerable preference. Applicants must provide proof of U.S. citizenship or permanent immigrant visa.

**Aptitude Test**

The School requires satisfactory performance on the American Dental Association Aptitude Test (DAT) given by the Council on Dental Education of the American Dental Association. Information on and application for the DAT can be obtained by writing to:

Division of Educational Measurements
Council on Dental Education
American Dental Association
211 East Chicago Avenue, Chicago 60611

The DAT is given in April and October, and all applicants are required to take this examination no later than October of the calendar year prior to the one in which they wish to enroll. In order to avoid delay of application processing, it is advisable that you take this examination during the April testing period.

When taking this test, you should specify the schools where applications are to be filed so that the test results may be mailed directly to the appropriate schools.

**Application Procedure**

UCLA participates in the American Association of Dental Schools Application Service (AADSAS). Application materials are available April 15-October 15 and may be obtained from:

AADSAS
P.O. Box 1003
Iowa City, Iowa 52240

Completed applications for UCLA are accepted by AADSAS no later than October 15 of the year prior to that in which the student wishes to enroll. At the time of application, a check for $20.00 payable to The Regents of the University of California should be forwarded to:

Office of Student Affairs and Admissions
UCLA School of Dentistry
Los Angeles, California 90024

Interviews are not generally used in assessing the suitability of an applicant to the UCLA School of Dentistry; however, the Committee on Admissions, in certain circumstances, may request interviews with individual applicants. Letters of recommendation are not required by this school, but will be considered if submitted. Applicants wishing to submit additional information not covered in the application form, which may be helpful, may do so in a letter to the Committee on Admissions in no more than two typewritten (double spaced) pages.

Notice of acceptance, rejection or alternate status will be sent to the applicant following completion of the formal evaluation by the Admissions Committee, beginning December 1 of any given year. Notification of rejection does not necessarily imply similar Committee action on subsequent applications. An applicant receiving a letter of acceptance to the School of Dentistry must submit a deposit of $50.00 (applicable to registration fees) within 30 days, unless otherwise indicated, in order to reserve a place in the class. This deposit is refundable for a period of six weeks following acceptance upon written notice to the Admissions Committee that you wish to withdraw your application. After this time period, the deposit is refundable only if your acceptance is rescinded by the School of Dentistry.

**Individual Programs**

Special programs of study for students may be arranged within the framework of the dental school curriculum. Normally these programs are available only after the student has completed the first year and with the approval of the Dean's Office and the chairman of the department responsible for the additional course work.

**Graduate Study**

Graduate work leading to the M.S. degree is offered in Oral Biology, either separately or in conjunction with the D.D.S. program. See the departmental announcements in the “Courses” section of this Catalog for more information.

**The Graduate School of Education**

If you are interested in following any of the academic programs offered by the Graduate School of Education, you are urged to obtain a copy of the Announcement of the School, by contacting the Office of Student Services, Moore Hall 201.

Detailed descriptions of the courses mentioned in the following discussion of procedures and requirements are presented in the “Courses” section of this Catalog.

**General Description**

The following graduate degree programs are offered for development of leadership in education: The Master of Education, the Master of Arts, the Doctor of Education, and the Doctor of Philosophy, as well as a joint Doctor of Philosophy degree program in Special Education with California State University at Los Angeles. The School also offers programs leading to several professional credentials.

**The Master of Education Degree (M.Ed.)**

The Master of Education program is a professional master's degree program providing preparation for midlevel professional positions in schooling or for advanced professional study. Emphases include practice, applied studies, and knowledge related to professional skills. Persons with above-average capabilities, with long-term commitment to the profession, and who are high in initiative and self-direction are sought. The Master of Education Degree is the appropriate degree to provide professional foundation study for students selecting the Doctor of Education program for advanced graduate study.

**General Requirements**

Qualification for the M.Ed. degree requires fulfillment of a minimum of 36 units from upper-division and graduate courses (in the 200/400 series) completed in graduate status. At least 20 of the required 36 units must be taken in professional (400 series) Education courses.

Final examinations for the Master of Education Degree include a comprehensive written examination and a performance examination; no thesis plan is offered. A maximum of six quarters is permitted for completion of the degree.

**Specialization Fields**

The specialization fields available to students in the Master of Education degree program are:

1. The specialization in Administrative and Policy Studies in Education is designed to prepare competent, highly trained educational professionals for careers as administrative leaders. Basic professional study is combined with intensive internship experience. In addition to six required Education courses, two specified research methodology courses and one approved elective course must be completed.

2. The specialization in Bilingual/Cross-Cultural Education is directed to the preparation of professionals who will be qualified to design, supervise, administer, and evaluate bilingual education programs. Basic professional study is combined with subspecialization study in an elected field of interest. In addition to six specified and required Education courses, at least three courses from a designated list of electives must be completed.

3. The specialization in Curriculum and the Study of Teaching is designed to develop individuals who will be competent in the generation and/or analysis of goals pertaining to curriculum educational programs, and in the selection and organization of learning opportunities. At all levels of schooling, such individuals may be prepared as generalists capable of assisting specialists in subject matter areas with respect to the planning and analysis of curriculum programs, or as curriculum specialists in connection with particular subject matter areas. Basic professional preparation is combined with subspecialization study in an elected field of interest. In addition to four specified and required Education courses, five courses selected from a designated list of electives must be completed.

4. The specialization in Teaching of Reading is directed to the development of requisite skills and abilities as well as to the dissemination of knowledge regarding the latest techniques and materials in the reading field. Basic professional study is combined with subspecialization study in an elected field of interest. In addition to seven specified and required Education courses, at least three courses from a designated list of electives must be completed.

**The Master of Arts Degree Program (M.A.)**

The Master of Arts program is an academic master's degree program providing preparation for advanced graduate study or for careers in basic research. Emphases include theory, research methodology, basic studies, and in-depth knowledge in a selected major area of education. The Master of Arts Degree is the appropriate master's degree for students planning to pursue the Doctor of Philosophy Degree in advanced graduate study; the Master of Arts Degree in conjunction with specified supplementary requirements may serve as prerequisite to study in the Doctor of Education degree program.

In completion of degree requirements, the student selects one of three major areas of education, and further selects a field of study within the major area for some specialized preparation and for possible thesis research.

**Specialization Fields**

Major areas and specialization fields for the Master of Arts degree are:

- **Area I:** Social and Philosophical Studies in Education
  - (a) Philosophy of Education
  - (b) Sociology and Anthropology of Education

- **Area II:** Educational Psychology
  - (a) Counseling
The Doctor of Philosophy Degree (Ph.D.)

The Doctor of Philosophy program is an academic doctoral degree program preparing students for careers in basic research or college-level instruction. Emphases include theory, research methodology, basic studies, and in-depth knowledge in education and an approved cognate field.

Area I: Social and Philosophical Studies in Education
(a) Comparative and International Education
(b) Philosophy and History of Education
(c) Sociology and Anthropology of Education

Area II: Educational Psychology
(a) Counseling
(b) Early Childhood Development
(c) Learning and Instruction
(d) Research Methods and Evaluation
(e) Special Education

Area III: Organizational and Administrative Studies in Education
(a) Administrative and Policy Studies in Education
(b) Curriculum and the Study of Schooling
(c) Education and Work
(d) Higher Education

Requirements

Qualification for the Master of Arts Degree in Education requires fulfillment of nine upper-division and graduate courses (36 quarter units) completed in graduate status, of which at least six courses (24 quarter units) must be graduate courses in the 200/500 series in Education; no more than two courses (8 quarter units) may be in the 500 series.

To meet the methodology requirement, two courses must be selected from the following Education courses: 202A, 202B, 210A, 210B.

The student may complete requirements for the Master of Arts Degree in Education by submitting a satisfactory thesis or by passing a comprehensive examination. A maximum of six quarters is permitted for completion of the degree.

Specialization Fields

The major areas and participating specialization fields for the Doctor of Philosophy degree are:

Area I: Social and Philosophical Studies in Education
(a) Comparative and International Education
(b) Philosophy and History of Education
(c) Sociology and Anthropology of Education

Area II: Educational Psychology
(a) Counseling
(b) Early Childhood Development
(c) Learning and Instruction
(d) Research Methods and Evaluation
(e) Special Education

Area III: Organizational and Administrative Studies in Education
(a) Administrative and Policy Studies in Education
(b) Curriculum and the Study of Schooling
(c) Education and Work
(d) Higher Education

Requirements

1. The currently specified University requirements for admission to the College of Education.
2. An earned grade-point average of at least 3.0 (based upon upper-division undergraduate and graduate work).
3. A minimum total score of 1000 on the combined quantitative and verbal sections of the Graduate Record Examination. (The Miller Analogies and General Mathematical Reasoning Test may be substituted for the Graduate Record Examination; minimum scores are 48 and 19 respectively.)
4. Applicants for a doctoral program must have a Master’s degree.

Information regarding additional specific admissions requirements applicable to respective degree programs may be obtained from the Office of Student Services, Moore Hall 201. Applicants who do not qualify in accordance with #2 and/or #3 above may be admitted to the School on the basis of other indicators of special promise such as relevant work experience, accomplishments, or public service. Full documentation of the foregoing in the form of recommendations and other types of evidence is essential if these indicators are to be given consideration.

Procedures

Applicants to a program of graduate study in the Graduate School of Education must file formal applications with both the Graduate School of Education and the Graduate Admissions Office indicating specific professional interest. Scores on the Aptitude Test of the Graduate Record Examination and an official transcript of record in duplicate from each college and university attended must also be submitted. Requests for application forms may be made directly to the Office of Student Services of the Graduate School of Education, Moore Hall, University of California, Los Angeles. The last day to submit advanced degree program applications for each quarter of the 1979-1980 academic year is indicated in the Calendar section of this Catalog. The Dean of the Graduate Division may deny admission if the record of scholarship is not sufficiently distinguished, or if the undergraduate program has not been of such character as to furnish an adequate foundation for advanced academic study. Applications for advanced study in education are referred by the Dean of the Graduate Division to the Graduate School of Education for recommendation before admission is approved.

The Aptitude Test of the Graduate Record Examination or the equivalent is required prior to admission to graduate status for all degree and advanced credential candidates.

Joint Doctor of Philosophy Degree (Special Education)
UCLA and CSULA

Students seeking information regarding emphases and requirements of the joint Ph.D. degree program with California State University at Los Angeles should consult the joint Doctoral Advisor, Dr. Judith Margolis, at UCLA, 1268 Moore Hall, or the Chairman of the Department of Special Education, California State University at Los Angeles.

Admission to Graduate Study

General qualifications for admission to a program of graduate study leading to an advanced degree in Education are:

1. The currently specified University requirements for admission to the College of Education.

2. An earned grade-point average of at least 3.0 (based upon upper-division undergraduate and graduate work).

3. A minimum total score of 1000 on the combined quantitative and verbal sections of the Graduate Record Examination. (The Miller Analogies and General Mathematical Reasoning Test may be substituted for the Graduate Record Examination; minimum scores are 48 and 19 respectively.)

4. Applicants for a doctoral program must have a Master’s degree.

Information regarding additional specific admissions requirements applicable to respective degree programs may be obtained from the Office of Student Services, Moore Hall 201. Applicants who do not qualify in accordance with #2 and/or #3 above may be admitted to the School on the basis of other indicators of special promise such as relevant work experience, accomplishments, or public service. Full documentation of the foregoing in the form of recommendations and other types of evidence is essential if these indicators are to be given consideration.

Procedures

Applicants to a program of graduate study in the Graduate School of Education must file formal applications with both the Graduate School of Education and the Graduate Admissions Office indicating specific professional interest. Scores on the Aptitude Test of the Graduate Record Examination and an official transcript of record in duplicate from each college and university attended must also be submitted. Requests for application forms may be made directly to the Office of Student Services of the Graduate School of Education, Moore Hall, University of California, Los Angeles. The last day to submit advanced degree program applications for each quarter of the 1979-1980 academic year is indicated in the Calendar section of this Catalog. The Dean of the Graduate Division may deny admission if the record of scholarship is not sufficiently distinguished, or if the undergraduate program has not been of such character as to furnish an adequate foundation for advanced academic study. Applications for advanced study in education are referred by the Dean of the Graduate Division to the Graduate School of Education for recommendation before admission is approved.

The Aptitude Test of the Graduate Record Examination or the equivalent is required prior to admission to graduate status for all degree and advanced credential candidates.

Arrangements for taking the Graduate Record Examination may be made by contacting the Education Testing Service at Box 955, Princeton, New Jersey 08540 or 1947 Center Street, Berkeley, California 94704. The results of this examination should be sent to the Office of Student Services, Graduate School of Education, University of California, Los Angeles, California 90024.
Registration and Scholarship Requirements

All graduate students are to register for three quarters every year until completion of all requirements for the degrees for which they are working, unless they have been granted a formal leave of absence. Enrollment in either Summer Session does not constitute a substitution for the requirement of continuous registration. Failure to register or to take a leave of absence will constitute presumptive evidence that the student has withdrawn from the University.

At least a "B" average must be maintained in all courses taken in graduate status at any campus of the University of California and in all courses applied toward advanced degrees. This standard applies to all graduate students, including candidates in graduate-level certificate programs.

Certificate (Credential) Programs in the Graduate School of Education

The Graduate School of Education has received approval from the Commission for Teacher Preparation and Licensing for the following credentials:

1. The Teaching Credential with authorization in single subject instruction.
2. The Teaching Credential with authorization in multiple subject instruction.
3. The Teaching Credential with Bilingual Emphasis.
4. The Specialist Credential in Reading.
5. The Services Credential with specialization in pupil personnel services. (Basic authorization)
6. The Services Credential with specialization in pupil personnel services. (School Psychologist authorization)

Information concerning credential program requirements may be obtained from the Office of Student Services, 201 Moore Hall, Graduate School of Education.

Admission

The approved program leading to a teaching credential may be entered in the junior, senior, or graduate year. Course work is sequenced and must be started in the Fall Quarter. Admission is by application only; forms may be secured from the Office of Student Services, Moore Hall 201. The last day to submit applications for the academic year 1980-81 is February 15, 1980. Early application is recommended.

Applications will be reviewed by the Committee on Teacher Admissions. Credentials and Standards, attention will be given to qualifications as a whole including:

1. Grade-point average.
2. Probability of employment, as determined by the applicant's background, experience, or personal qualities.
3. Skill in teaching as determined by the applicant's previous experience.

Letters of recommendation are optional but useful to the Committee on Teacher Admissions. Credentials, and Standards in review of the applicant's qualifications.

Students qualifying for admission for a fifth year of professional preparation in the Graduate School of Education must meet the general admissions requirements of the Graduate Division of the University and must have an earned grade-point average of at least 3.0 (based upon upper division undergraduate and graduate work).

Certificate (Credential) Programs in the Graduate School of Education

The Graduate School of Education has received approval from the Commission for Teacher Preparation and Licensing for the following credentials:

1. The Teaching Credential with authorization in single subject instruction.
2. The Teaching Credential with authorization in multiple subject instruction.
3. The Teaching Credential with Bilingual Emphasis.
4. The Specialist Credential in Reading.
5. The Services Credential with specialization in pupil personnel services. (Basic authorization)
6. The Services Credential with specialization in pupil personnel services. (School Psychologist authorization)

Information concerning credential program requirements may be obtained from the Office of Student Services, 201 Moore Hall, Graduate School of Education.

Admission

The approved program leading to a teaching credential may be entered in the junior, senior, or graduate year. Course work is sequenced and must be started in the Fall Quarter. Admission is by application only; forms may be secured from the Office of Student Services, Moore Hall 201. The last day to submit applications for the academic year 1980-81 is February 15, 1980. Early application is recommended.

Applications will be reviewed by the Committee on Teacher Admissions. Credentials and Standards, attention will be given to qualifications as a whole including:

1. Grade-point average.
2. Probability of employment, as determined by the applicant's background, experience, or personal qualities.
3. Skill in teaching as determined by the applicant's previous experience.

Letters of recommendation are optional but useful to the Committee on Teacher Admissions. Credentials, and Standards in review of the applicant's qualifications.

Students qualifying for admission for a fifth year of professional preparation in the Graduate School of Education must meet the general admissions requirements of the Graduate Division of the University and must have an earned grade-point average of at least 3.0 (based upon upper division undergraduate and graduate work).

Office of Student Services

The Office of Student Services, Moore Hall 201 telephone (213) 825-8326, helps prospective students in education explore and choose appropriate fields and levels of school service; offers advice concerning courses and procedures to follow in qualifying for graduate degrees, credentials, and certification for public school service, and provides guidance on professional matters.

In addition, the Office serves as a selection agency to determine eligibility for professional programs under the supervision of the Teacher Education Laboratory. It studies details of enrollment in classes, refers graduate-program candidates to appropriate faculty advisers; makes recommendations for scholarships and fellowships; conducts research on student achievement, and formulates periodic reports on student personnel.

The staff consists of a Graduate Advisor who handles advising of all candidates for graduate degrees and counselors who advise candidates for credentials.

It is important for each applicant to establish contact with Office of Student Services in order to determine eligibility for program admission, as well as to receive assistance in the selection of courses and in the fulfillment of all admissions requirements. Enrollment for a second quarter is contingent upon satisfactory completion of all necessary steps in the admissions procedure during the first quarter.

Graduate Study in the School of Engineering and Applied Science

If you are interested in available study in the School of Engineering and Applied Science at UCLA, you are urged to request a copy of the Announcement of the School from the Graduate Studies Office, 6730 Boelter Hall, UCLA. You can find detailed descriptions of the courses discussed below in the "courses" section later in this Catalog.

Degrees Offered

The School of Engineering and Applied Science offers graduate study and research in many areas of engineering leading to the following degrees: the M.S. in Engineering; the M.S. in Computer Science; the professional degree, M. Engr. (Master of Engineering); the Engineer Degree; and the research degrees, Ph. D. in Engineering and Ph. D. in Computer Science. Additionally the school offers a certificate program, on successful completion of which a student will receive a Graduate Certificate of Specialization in one of the fields of Engineering and Applied Science. Graduate students are not required to limit their studies to a particular department. Some of the research activities carried out in the departments are part of the advanced instructional program in the School and offer students the opportunity to obtain professional experience and partial financial support. The School is comprised of the departments described below which serve as centers of activity.

Chemical, Nuclear, and Thermal Engineering

The areas of specialization within the department include:

Chemical Engineering

Wastewater Treatment and Water Quality; Thermodynamics of Phase Transformations; Reverse Osmosis; Molecular Beams; Membrane Transport; Electrochemical Engineering; Cryogenics; Sensitivity; Combustion; Catalysis; Biochemical Engineering; Air Pollution Control; Aerosol Dynamics.

Nuclear Engineering

Neutron transport; nuclear-reactor kinetics; dynamics; LMFBR, LWR and HTGR safety; fuel element behavior; materials; siting; risk-benefit; fusion reactor technology.

Thermal Engineering

Convection, radiation, conduction, evaporation, condensation, boiling, two-phase flow, chemically reacting and radiating flow, instability and turbulent flow, and reactive flow in porous media.

Computer Science

The School of Engineering and Applied Science, through its Computer Science Department, offers M.S. and Ph.D. degrees in Computer Science as well as major and minor fields for graduate students seeking Engineering degrees. The program includes five basic areas:

Theory

Theoretical models in computer science; automata theory; formal grammars; computability and decidability.

Methodology

Simulation; on-line computation; information storage and retrieval; file management; numerical analysis; optimization; analog and hybrid computers; pattern recognition.

System Architecture

Computer system architecture; digital systems; logic design; memory, arithmetic control, data transmission and input-output systems design; computer graphics.

Programming Languages and Systems

General and special purpose programming languages; compilers; system programming; syntax, semantics and pragmatics of programming languages.

Computer System Modeling and Analysis

Mathematical modeling, analysis and optimization of computer systems; time-sharing systems models; computer scheduling and resource allocation; memory management; data communications; computer-communication networks; performance evaluation (analysis, simulation, measurement).

The Computer Science Department is introducing a new offering in the Master of Science degree program called Computer Systems. It is designed to emphasize management of computer related activities rather than research. The program will include heavy emphasis in group projects and case studies.

Electrical Sciences and Engineering

The courses and research in this department cover five specialty areas:

Applied Plasma Physics

The practical aspects of plasma physics, including plasma production, confinement, and heating; suppression of instabilities; generation, propagation, and interaction of electromagnetic and plasma waves.

Electromagnetics

Study of the interaction of electromagnetic waves with complex media; antennas and microwave components; scattering and diffraction theory; moving media; modern optics; electromagnetic and acoustic wave interaction; magnetic and dielectric properties of matter; fiber optics and integrated optics.

Electric and Electronic Circuits

Analysis and synthesis of active, passive, digital and distributed circuits; computer-aided circuit
design and optimization; theory of nonlinear circuits; investigation of electronic circuits using solid state and quantum electronic devices; study and application of electronic signal processing circuits and systems.

**Solid State Electronics**

Electric, magnetic, conductive and semiconducting properties of matter and the application of these to the investigation of solid state devices. Semiconductors, surface studies, device physics and technology, and integrated circuits.

**Quantum Electronics**

High-powered lasers, high gain media, optical resonator design, laser dynamics, nonlinear optics, and infrared detection.

**Engineering Systems**

Course work, independent studies and research are offered in the following areas:

**Systems Engineering**

System representation; systems modeling and identification; decision analysis and decision theory; sequential decision processes; applied optimization; design optimization approximation concepts; computer-solved design; value and utility theory; sensitivity theory; aggregation and decomposition of stochastic systems; resource allocation; application in engineering and industrial systems.

**Applied Dynamic Systems Control**

Systems engineering principles and applied mathematical methods for modeling, analysis and design of continuous and discrete-time dynamic systems. Emphasis on computation solution methods, simulation and modern applications in engineering, biological and other sciences. Systems concepts; feedback and control principles; stability concepts; applied optimal control; stochastic systems; parameter and state estimation; stochastic control; identification and self-adaptive control; differential games; computer process control. The Bioinformatics option includes application to biology, medicine and pharmacology.

**Water Systems Engineering**

Water resources engineering; surface and ground-water hydrology; optimization of water resource systems; water quality control and management; saline water conversion; economic evaluation of water resources development.

**Biotechnology**

Life/behavioral science foundations to technology; man-equipment-environment interactions; linear and nonlinear models of living systems in the control loop; quantitative and qualitative methods of biotechnical design and evaluation; applications to transportation and biomedical systems.

**Materials**

Course work, independent study and research in this department include these areas:

**Metallurgy**

Fracture of steels and composite materials; joining of materials; heat treatment of steel, fracture of weld metal; high temperature and fatigue fracture; mechanics of extrusion, forging, and rolling; materials synthesis, vacuum metallurgy, structure-property relationships; crystal growth, casting and modern foundry practice; thin films, super conducting materials.

**Materials Science**

Electron microscopy, x-ray and electron diffraction; theoretical metallurgy, phase transformation in solids; solidification science; electronic materials; solar cells; irradiation effects on structural materials; strengthening mechanism in solids; high pressure effects on solids; elasticity of crystals and crystal defects; structure of liquid and amorphous alloys, and plastically deformed metals, structure and properties of polymers.

**Ceramics**

Oxidation kinetics, mechanical properties of oxides; thermodynamics and strength of ceramic solids, application of ceramics; glass science, and electrical properties of amorphous materials.

**Materials Recycling**

Recycling glass, waste, and plastics.

**Bio-Materials**

Development, characterization and properties of new materials for dental and medical prostheses.

**Mechanics and Structures**

The educational and research programs of the Department are built upon the faculty's interest and expertise in the following technical disciplines:

**Dynamics**

Dynamics and control of physical systems including space and ground vehicles, industrial machines and manipulators; analytical, experimental and design studies of mechanical and electromechanical systems.

**Fluids**

Experimental and theoretical studies relating to aerodynamics, hydrodynamics, geophysical and environmental fluid mechanics, thermal convection, turbulence, aerodynamic noise, applied acoustics, and bio-fluid mechanics.

**Solids**

Experimental, theoretical and numerical studies in mechanics of solids; including fracture mechanics, optical metrology, micromechanics, geomechanics, adhesive fracture mechanics with emphasis on technical applications, stress and strength analyses.

**Soil Mechanics**

Theoretical, computational, experimental and field studies of soil behavior under static and dynamic loading, including studies of constitutive equations, earth dams, reinforced earth, seismic ground motion, foundations, soil-structure interaction and finite element analyses of geotechnical engineering problems.

**Structures**

Structural mechanics, static and dynamic analysis of structural systems, structural design and optimization methods, fluid-structure interaction (aeroelasticity), finite element methods and related computational techniques, stability and failure analysis of structures, earthquake effects, soil-structure interaction, biostuctural mechanics, field and laboratory experimental techniques.

**System Science**

The Department offers instructional and research programs in communication systems and networks, control systems, operations research, theoretical computer science, and applied optimization techniques in system modeling and optimization, stochastic processes, and system theory with additional applications in such interdisciplinary areas as bioengineering, economics, public systems and urban services. Specifically established Ph.D. fields include:

**Communication Systems**

Information theory; coding and decoding techniques; channel characterization; signal detection; estimation and filtering; optimum signal design in communication and radar; digital and analog communication systems; rate distortion theory, source coding, data compression, speech compression; digital data networks; satellite systems; design of fast algorithms for digital signal processing.

**Computability and Algorithms**

Topics in the theory of computation and in the design and analysis of algorithms for numerical and combinatorial problems. Automata and formal languages, context-free families of languages, decision problems. Program schemes; semantics. Computational complexity; measures and bounds; concrete complexity results for specific problems. Graphs, discrete-state systems models, identification and diagnosis.

**Control Systems**

Control system methodology and engineering applications: optimal control and computing techniques, identification, estimation and adaptivity, stochastic control and Kalman Filtering; differential games and cooperative games, interactive control and team theory, distributed systems, aerospace systems, process control, control of flight vehicles and controlled thermonuclear reactions.

**Operations Research**

Optimization theory, including linear programming, nonlinear programming, large-scale mathematical programming and associated network flow problems. Applications in engineering, economics and management sciences. Stochastic processes, including renewal theory, Markov chains, Markov decision processes. Applications to inventory and queuing problems. Reliability theory and practice.

**Queueing Systems and Network Flows**

Point processes; queueing systems, single server queues, priority queues; graphs, path problems, maximum flows in networks, single and multicommodity flows; applications to problems in information delay networks, satellite and computer communication networks, buffer systems, control systems, operations research, public systems.

**Systems Modeling and Optimization**


**System Theory**

Majors and minors in this field have been arranged to meet the needs of students whose interests lie in emerging areas of System Science and in its interfaces with other engineering disciplines and applications. Particular attention is given to general mathematical characterizations of systems and networks, e.g., operator theory and theory of networks, scattering theory of systems and networks. Detailed programs under this heading are arranged individually when judged to be appropriate by the Department.

**Admission to Graduate Study in the School of Engineering and Applied Science**

Applications for admission from graduates of recognized colleges and universities will be considered. The basis of selection is promise of success in the work proposed, which is judged largely on previous college record. Before admission is approved, an application for Engineering graduate
requirements within two calendar years from the time of admission to the Ph.D. program and to complete the remaining requirements for the Ph.D. degree within an additional period of two calendar years.

In exceptional cases a student without an M.S. degree will be allowed to proceed toward the Ph.D. In such cases the student is expected to complete the field requirements within five calendar years from the time of admission to the Ph.D. program and to complete the remaining requirements for the Ph.D. degree within an additional period of two calendar years.

The Graduate Certificate of Specialization in Engineering and Applied Science

Each graduate certificate program consists of five courses, two of which must be at the graduate level, 200-series. No work completed for any previously awarded degree or credential can be applied to the certificate. Successful completion of a certificate program requires an overall minimum "B" average in all courses applicable to a graduate Certificate of Specialization in Engineering and Applied Science. 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.

Courses completed for a Certificate of Specialization in Engineering and Applied Science may subsequently apply toward master's and/or doctoral degrees.

You can find out more about the certificate programs from the Engineering Graduate Studies Office in 6730 Boettler Hall, telephone 825-8058 or 825-2794.

The Master of Science in Engineering

The Master of Science in Computer Science

The fields of study leading to the M.S. degree are:

- Applied Electromagnetics
- Applied Plasma Physics
- Bio-Rocials
- Biomechanics
- Ceramics and Ceramic Processing
- Chemical Engineering and Applied Chemistry
- Communication Systems
- Computability and Algorithms
- Computer Science: Computer System Modeling and Analysis
- Computer Science: Methodology
- Computer Science: Programming Languages and Systems
- Computer Science: System Architecture
- Computer Science: Theory
- Control Systems Design
- Dynamics
- Dynamic Systems Control
- Earthquake Engineering
- Electronic Circuits
- Environmental Engineering Systems
- Fluid Mechanics
- Human Information Processing
- Hydrology
- Man-Machine-Environment Systems
- Materials Recycling
- Mechanical and Aerospace Engineering Thermal Science
- Mechanical Engineering Design
- Metallurgy and Metal Processing
- Nuclear Science and Engineering
- Operations Research
- Problem Solving and Decision Making
- Product Safety and Reliability
- Quantum Electronics
- Queueing Systems and Network Flows
- Science of Materials
- Soil Mechanics
- Solid Mechanics
- Solid State Electronics
- Structural Design
- Structural Mechanics
- System Modeling and Optimization
- Urban Systems
- Water Quality Engineering
- Water Resources

* Suggested programs of study in these fields are available in the appropriate Department offices. As a student, you must consult with your advisor for information on the appropriate field of study, with the support of your advisor.

Requirements

Students meet the requirements by satisfactorily completing appropriate courses chosen in accordance with a plan prepared in conference with a graduate engineering advisor and approved by the School. A majority of the total formal course requirements and a majority of the graduate course requirements must consist of courses in engineering (for the M.S. in Engineering) or in computer science (for the M.S. in Computer Science). Additionally, students seeking a graduate degree in Computer Science must demonstrate competency in the Computer Science breadth requirement.

Two options are available in the M.S. program:

- **Thesis Plan: At least nine courses and a thesis are required.** Seven of the nine courses must be formal courses, including at least four 200-series graduate courses and no more than three 100-series upper-division undergraduate courses. The remaining two courses may be individual study (Engr. 598) involving work on the thesis. No 400-series or other 500-series courses are applicable toward the M.S. degree requirements.

- **Comprehensive Examination Plan: At least nine courses and a comprehensive examination in the major field of study are required.** Of the nine courses, at least five must be 200-series graduate courses; the remaining four courses may be either 200-series graduate courses or upper-division undergraduate courses.

The Master of Engineering Degree

The requirements for the Master of Engineering degree are satisfied by completion of the Engineering Executive Program. A limited number of graduate students are selected to enroll in this program at the beginning of each Fall Quarter.

The Engineering Executive Program is a two-year work-study program designed for those engineers who eventually will fill high-level executive positions in industry and government. It consists of sequences of graduate-level professional courses (the 400 series) covering significant aspects and new concepts, in the management of technological enterprises.
Admission
To be considered for the program, you must qualify for regular graduate status in engineering at UCLA. You must have had five years of responsible full-time professional experience in engineering and must have completed some formal study in statistics. Approximately twenty-five applicants will be selected to enter the program. Criteria for selection are: educational background, professional experience and potential for a managerial career.

A new group of students is admitted to the program each Fall. They form a class and remain together for two years, taking the same courses and participating in writing two or more group reports. Classes meet between 3:00 and 9:30 p.m., one day a week, during the Fall, Winter and Spring Quarters. Special individual and group problems are assigned for the Summer Quarters.

Applications for admission to the program, including official transcripts of college records are due in the Graduate Admissions Section of the Graduate Division by March 15. There is a fee of $550 each quarter. You may obtain more information from the Office of the Engineering Executive Program, School of Engineering and Applied Science, UCLA, Los Angeles, California 90024. The office is located in 6288 Boelter Hall. The telephone numbers are (213)825-4628 and 825-4471.

The Doctor of Philosophy Degree in Engineering (Ph.D.)

The Doctor of Philosophy Degree in Computer Sciences (Ph.D.)

The basic program of study toward the Ph.D. degree in Engineering or Computer Science is built around one major field and two minor fields. Each field must be based on a clearly specified written body of knowledge. Certain fields of study have been established formally. These established fields of study are:

- Applied Dynamic Systems Control
- Applied Mathematics
- Applied Plasma Physics
- Bioengineering
- Ceramics and Ceramic Processing
- Chemical Engineering
- Communication Systems
- Computability and Algorithms
- Computer Science: Methodology
- Computer Science: Programming Languages and Systems
- Computer Science: System Architecture
- Computer Science: Theory
- Computer Systems Modeling and Analysis
- Control Systems
- Deformable Solids
- Dynamics
- Earthquake Engineering
- Electric Circuits
- Electromagnetics
- Electronic Circuits
- Fluid Mechanics
- Heat and Mass Transfer
- Man-Machine-Environment Systems
- Metallurgy and Metal Processing
- Nuclear Fuels and Material Behavior
- Nuclear Science and Engineering
- Operations Research
- Quantum Electronics
- Queueing Systems and Network Flows

Science of Materials
Soil Mechanics
Solid State Electronics
Structures
System Modeling and Optimization
System Theory
Water Resource Systems Engineering

In both the major and the minor fields emphasis is placed on an understanding of the fundamentals of the areas studied, on the sophisticated interpretation of the bodies of knowledge, and on the ability to correlate and apply this knowledge.

Minor fields should normally be chosen to provide support for the knowledge for the major field research. However, the provinces of knowledge of the major and minor fields must be distinct. Not all minor fields are required to have primary engineering or computer science content, though a relevant relation to the engineering field should be demonstrable. A Ph.D. program normally should not contain more than one ad hoc (nonestablished) field.

If you have completed the M.S. degree at another institution, you should consult the chairpersons of the appropriate fields to determine if the work may contribute to the requirements of the minor fields. A maximum of two courses completed in graduate status at another recognized institution can be used to satisfy partially a minor field requirement, with the approval of the minor field chairperson and the Assistant Dean for Graduate Studies.

Requirements

The major field normally has a scope corresponding to a body of knowledge contained in a minimum of six courses, at least four of which are 200—series courses, the remainder being either 200—series or 100 series courses, and also the current literature in your area of specialization. If your major field is chosen from the list of established major fields, approval is pro forma. In exceptional cases, an ad hoc major field may be permitted; in such cases, you must demonstrate that your proposed major field consists of a correlated cohesive body of knowledge, of suitable quantity and quality, leading to a research area in which you can find adequate dissertation guidance. Students planning to use an ad hoc major field in their Ph.D. program should consult the Engineering Graduate Studies Office for the procedures governing ad hoc major fields. All major fields must have primary content in the area specified by the degree sought. A written preliminary examination in the major field (normally eight hours long) is required. Students enrolled in a Ph.D. program of study will be expected to have passed the written major field preliminary examination prior to enrolling for the 7th quarter of full-time graduate study.

Minor Field Requirement

Minor fields should primarily be drawn from the list of established fields, but ad hoc minor fields will be accredited when properly justified. Each minor field normally embraces a body of knowledge equivalent to three courses, at least two of which are graduate courses. You may petition to take an examination in a minor field in lieu of taking the courses.

Oral Preliminary Examination

An oral preliminary examination (approximately two hours long) encompassing the major and minor fields is required and should take place within a reasonable period of time after the completion of the last of the field requirements.

Oral Qualifying Examination

After you have demonstrated competence in the three fields, you will notify the School of your readiness for the oral qualifying examination. The Assistant Dean for Graduate Studies, after consultation with you and your advisor, will nominate the Doctoral Committee for this examination, generally as follows: faculty member directing the research, chairperson; two additional faculty members from the School of Engineering and Applied Science; two additional faculty members from the University of California, but outside the School of Engineering and Applied Science. The Doctoral Committee is appointed by the Dean of the Graduate Division, based on the nomination proposed by the School. The details of the oral qualifying examination are at the discretion of the committee but ordinarily will include a broad inquiry into your preparation for research. The Doctoral Committee reviews a preliminary report on your dissertation at the oral qualifying examination. All members of the committee shall be present and the candidate is considered to have failed if more than one member votes "not passed."

Dissertation

You are required to prepare a dissertation in accordance with the instructions furnished by the Student and Academic Affairs Section of the Graduate Division. The orientation meetings on the format of theses and dissertations are scheduled for the beginning of each quarter as listed in the calendar in the Standards and Procedures for Graduate Study at UCLA. You should obtain information and assistance in the preparation and submission of the final copies of the manuscript, you can consult the Manuscript Advisor for Theses and Dissertations, Office of the University Archivist, Powell Library.

Final Oral Examination

It is the policy of the School of Engineering and Applied Science to require a final examination of all doctoral candidates. This examination is conducted by the Doctoral Committee and deals primarily with the relation of the dissertation to the general field in which the subject lies.

The Engineer Degree Program

The Engineer (Engr.) degree program has been established to offer a degree which represents consideration of advanced training in the Engineering field, but which does not require the research effort and orientation involved in a Ph.D. dissertation. The basic program of study for the Engineer degree is built around one major field and two minor fields drawn from the list of current fields for the Ph.D. degree in Engineering. In an exceptional case, you may petition to use an ad hoc field when the established fields do not meet your educational objective.

Requirements

A minimum of 15 courses are required for the Engineer degree. Nine of these should be at the 200-series level. A minimum of six courses (4 in the 200-series) are required for the major field and a minimum of three courses (2 in the 200-series) are required for a minor field. Courses in the 500-series and seminar courses are not applicable for meeting the minimum requirements.

Field Requirements

Students are required to pass an eight-hour written major field examination, which shall be the same as the Ph.D. preliminary examination in that field. The level of achievement for passing a pass in this examination shall be the same as that for the Ph.D. degree. For additional details refer to the paragraph on major field and requirements for the Ph.D. degree, discussed above.

The minor field requirement is the same as that for the Ph.D. degree.

Oral Preliminary Examination

After passing the major field examination and satisfying the requirements of the two minor fields, the candidate shall schedule a two-hour oral examination, covering all three fields.
You can get information about "pre-law" advising in the "academics: resources to help you" section later in this Catalog.

The Graduate School of Library and Information Science

If you are interested in pursuing the academic programs offered by the UCLA Graduate School of Library and Information Science, you are urged to get a copy of the Announcement of the School by writing to Dean Robert M. Hayes, Graduate School of Library and Information Science, 120 Powell Library Building, 405 Hilgard Avenue, Los Angeles, California 90024, or calling (213) 825-4351.

General Description

The Graduate School of Library and Information Science offers curricula leading to graduate degrees at the master's and doctoral levels and to Certificates of Specialization. The fields of emphasis in these curricula have been grouped into three major areas: librarianship, bibliography, and information science. The School also offers a few undergraduate courses designed to assist students in the use of information sources in their own studies and research. However, the University does not offer an undergraduate major in librarianship, and admission to the degree programs of the School requires a bachelor's degree in a subject major, based on a broad background in the liberal arts and sciences. You can find a detailed description of class offerings in the "courses" section of this Catalog.

The Master of Library Science Program

The MLS (Master of Library Science) program of the UCLA Graduate School of Library and Information Science has been accredited by the American Library Association since 1962, and has been re-accredited under the 1972 standards. This professional master's degree is based upon a course of study designed to provide both basic professional competencies and knowledge of a field of specialization. A research paper in the field of specialization and a comprehensive examination are degree requirements. Normally, the program requires six quarters of residency. Although students with prior graduate work may be able to complete the program in less time, doing so requires that a field of specialization must have been identified and the applicability of prior course work must be approved by the faculty. Programs leading to post-MLS Certificates of Specialization may be selected from courses and three quarters of study. Requirements for the California State Credential for school librarians may be met concurrently with master's degree requirements provided the student already has the qualifications for a standard teaching credential.

The Ph.D. in Library and Information Science

The Ph.D. in Library and Information Science is granted in recognition of distinguished attainment in the theory and practice of library and information science, especially as demonstrated by a significant original research contribution. The School presently offers curricula which specialize in bibliometrics, library science, and information science. To qualify for advancement to candidacy, the doctoral student is required to pass a set of qualifying examinations. First, the written examinations are designed to test the student's knowledge of the history of library and information science, its present practice, and its essential competencies. Second, the oral examination is intended to test the student's knowledge of the specific area of proposed study and the competence to do research in that area, as a means of assessing the potential ability of the doctoral candidate to complete a successful dissertation and continue subsequent research.

Admission

Admission to the School requires that the applicant meet the University's requirements for admission to graduate studies discussed in the "admission" section of this Catalog. In addition, the School has identified other data needed for evaluation of applicants for the MLS program: a satisfactory score on the General Aptitude Test of the Graduate Record Examination, letters of reference, and an interview. The School has also established requirements with respect to three special competencies: competence in foreign languages (equivalent to two years of college level course work), college level knowledge of statistics, and knowledge of computer programming. Admission to the MLS program is in Fall Quarter only. Admission to the Ph.D. program may be in any quarter.

A minimum of six quarters of academic residence in graduate status of the University of California is required for the doctoral degree, including one year in continuous residence. Graduate students are in academic residence at the School at least two courses in graduate or upper division work during a quarter. Normal progress to the degree, including preparation for the qualifying examinations and preparation of the dissertation, is expected to take from three to five years.

The Graduate School of Management

The primary objectives of the Graduate School of Management are:

To provide first-rate professional education for successful management careers in private and public, profit and nonprofit, enterprises.

To prepare highly qualified teachers and research scholars in the field of management and management-related disciplines.

To enlarge through research the body of systematic knowledge about the management process and the environment in which an enterprise functions, and to disseminate this knowledge through publications and improved teaching materials and learning environment.

To provide superior executive education programs for professional managers.

The Graduate School of Management offers curricula leading to graduate degrees at the master's and doctoral levels. The School also offers an Executive Program, research conferences, and seminars for experienced managers; information about these programs may be obtained from the Office of Executive Education, GSM 2381, (213) 825-2001. The School does not offer an undergraduate major in management, although some courses which may be elected by undergraduate students are offered by the Department of Management. Enrollments in these courses are very limited, however, and non-GSM students are forewarned not to count on gaining admission to them in order to meet the requirements of other departments or for any other necessity.

For additional information on the graduate programs outlined below, you are urged to consult the Announcement of the Graduate School of Management, which is available from the Director of Administration Programs, MBA Programs, 3371 GSM, or from the Assistant Dean, MS/Ph.D. Program, GSM 3379.

Detailed course descriptions can be found in the Courses of Instruction section of this Catalog.

The Master of Business Administration Program

The Master of Business Administration program is a two-year, full-time course of study leading to the MBA degree. It is designed to prepare managers.
and management specialists for roles in organizations of various kinds, including not-for-profit corporations and public institutions as well as business enterprises.

The program aims to develop managerial perspectives and styles of thinking while imparting expertise in a student-selected field of professional specialization. Along with subject matter mastery, the MBA program stresses integrating the lessons of various disciplines, translating theory into practice, questioning the past and innovating for the future, and self-guided learning as a continuing basis for effective managerial work.

The four elements of the program are the nucleus, the management core, the concentration, and electives. The nucleus develops professional problem-solving and decision-making skills through experiences ranging from laboratory simulations to consulting projects in on-going organizations. Management core subjects require students to learn the fundamentals of disciplines which underlie the practice of management. The concentration, selected by each student from a wide variety of established alternatives or individually tailored to suit special needs, provides specialized knowledge and skills for a particular field of management work. Among the fields offered are Accounting Information Systems, Business Economics, Computers and Information Systems, Finance, Human Systems Studies, Industrial Relations, Integrated Management Policy Studies, International Management, Management in the Arts, Management Science, Marketing, Production and Operations Management, Public Interest Management, and Urban and Land Economics. The availability of electives permits students to pursue subjects of personal interest, whether or not they are closely related to the mainstream of the program of studies.

Requirements

A 3.0 grade-point average (B) is required for graduation. The MBA must be completed within two calendar years of admission. Acceleration may be possible through the use of summer session or by taking extra-heavy course loads.

Units

At least 96 units of work for the MBA degree must normally be completed in residence for the MBA program. In special cases, up to 12 units of post-bachelor's degree work may be counted toward the 96-unit total; but, ordinarily, when previous work is accepted in satisfaction of subject matter requirements, additional electives to complete 96 units of work must be selected.

Comprehensive Examination

The comprehensive examination for the completion of the MBA program consists of the student's demonstration of professional management proficiency through the final written report of the Management Field Study, a team project which is part of the nucleus requirement.

MBA for the Fully Employed

A part-time version of the MBA program is available for a limited number of fully-employed persons. Students are admitted for one or two years, corresponding to the 24- and 36-unit options, respectively. Students who have completed a full-time undergraduate course load may be admitted to the program with the permission of the Assistant Dean for Admissions and Planning.

The academic master's program consists of prerequisites, the specialization, and a thesis. A minimum of nine graduate level courses is required. Eight 200-level courses and one course credit (1 unit) of Management 598 satisfy this requirement.

An essential component of success in the program is a close working relationship with one or two members of the Graduate School of Management faculty. Students are urged to establish such relationships early in their program. Initially, students are advised on their plan of study by the MS advisor assigned in their specialization, but they may change advisors whenever they wish during the course of their program through the program. All MS students are required to submit a plan of study form by the end of their second quarter. This form lists the courses the student expects to take to fulfill the program requirements.

The Doctoral Program in Management

The doctoral program in Management is a research-oriented degree program which leads to the Doctor of Philosophy (Ph.D.) degree 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 universities as faculty members or as staff specialists in business firms and other organizations. The program offers each student substantial opportunities to discover his or her own, unique scholarly focus and competence.

Plan of Study

An essential component of successful graduate study in the doctoral program is close working relationships with faculty members of the Graduate School of Management and/or other departments at UCLA. Doctoral students are advised initially by the doctoral advisor of their particular curriculum area, but they may change advisors whenever they wish during the course of their progress through the program. Students are urged to establish a working relationship with one or two faculty members early in their studies and are expected to have a close working relationship with at least one faculty member by the end of their first year in the program.

A diagnostic progress review is conducted by the major curriculum area at the end of the student's first year in the program. Students are expected to prepare for this review by taking several research courses and doctoral seminars in the major field. The review is based on indicators of scholarly achievement such as performance in courses and additional evidence of scholarly and professional development deemed appropriate by the committee.

By the end of their first year in the program, students are also required to submit a proposed study form for approval by the Assistant Dean of the Doctoral Program. This form outlines all of the course work that will be taken to satisfy program requirements.

The program is designed to be completed in four years. All doctoral students are required to be enrolled full-time until they are advanced to candidacy; a full-time student is one who is enrolled in a minimum of eight units per quarter.

Study toward the doctoral degree in management includes specialization in a major field, research and breadth requirements, preparation of a dissertation proposal and presentation of it at a formal seminar, the oral qualifying examination, and a doctoral dissertation.

Fields of Study

The following fields of study are currently offered for the major field requirement within the doctoral program:

Accounting Information Systems
Business Economics
Computers and Information Systems
Finance
Admission to the Graduate School of Management

A candidate for admission to the Graduate School of Management must hold a bachelor's degree from a college or university of fully recognized standing. Although no specific undergraduate major or series of courses is required for entrance, students must complete elementary algebra and differential calculus prior to entering the MBA program. These may be taken on a noncredit, programmed instruction, regular course, or some other equivalent basis.

MBA Admission

For admission to the MBA program, consideration is given to your academic record; score on the Graduate Management Admission Test (GMAT) and, for applicants whose native language is not English and who attended educational institutions where the language of instruction was not English, the Test of English as a Foreign Language (TOEFL), potential for management as evidenced by work experience and community, extracurricular, or other leadership experience; and recommendations.

The admission decision is based on your total application and, therefore, minimum required undergraduate academic averages and GMAT scores have not been established. Preference is given to applicants who have had full-time work experience related to the field of management since completing their bachelor's degrees. Students admitted directly from baccalaureate programs who choose to work before entering graduate school will have their admission honored for three years.

MS Admission

The MS program is intended for mature students who have a strong desire to pursue research in Business Economics or Management science, and who can devote full time to academic work. Applicants must hold a bachelor's degree from an accredited institution, with a scholastic average of at least B. Although no specific undergraduate major is required, it is recommended that students entering the academic master's program have prior training in mathematics, statistics, and the social sciences. The Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE), and recommendations are required of all candidates. Only a limited number of applicants are admitted to the program each year.

Ph.D. Admission

The doctoral program (Ph.D.) is intended for mature students with demonstrated intellectual capacity who can devote full time to academic work. Applications are welcomed from persons with prior work in the social, behavioral, and technological sciences, or other academic fields, as well as from those who have done their prior work in sciences. To be considered for admission, an applicant must hold a bachelor's degree from an accredited institution, with a scholastic average of at least B; an average of B+ in any prior graduate work is required. A master's degree is desirable but not necessary for admission. The Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE) is required of all candidates to the program. Only a limited number of applicants are admitted to the doctoral program each year. Admission is based on a scholastic record of distinction in both undergraduate and graduate work; letters of recommendation on the GMAT or GRE, recommendations, and expressed interest in conducting individual research.

Application Procedures

Write for information and application forms to the Director of Admissions, MBA Program, or to the Assistant Dean, MS/Ph.D. Program, at the Graduate School of Management, UCLA, Los Angeles, California 90024. To make application to the MBA program, follow the instructions given in the MBA Application Form. To make application to the MS or Ph.D. program, follow the instructions given in the Application for Admission to the MS/Ph.D. Program.

You are advised to apply early with complete documentation as specified in the MBA Application or in the Application for Admission to the MS/Ph.D. Program. Admission is in the fall quarter only. Completed applications must be filed with UCLA by:

The School of Medicine

If you are interested in the programs of the UCLA School of Medicine, you are invited to get a copy of the Announcement of the School by contacting the Office of Student Affairs Room 12-109 Center for the Health Sciences Los Angeles, California 90024.

'Pre-Health Care' advising, including course information and open advising opportunities, is available, and counseling sessions are available in Murphy Hall 1339, or through COPE (Counseling on Pre-Health Education) a peer-group counseling project. COPE lists its activities—times and places—in the Daily Bruin.

General Description

The School of Medicine operates on a quarter system with a four-year curriculum. The freshman year consists of three quarters of courses in basic medical sciences, social medicine and behavioral sciences, followed by a summer quarter of vacation. The sophomore year, also three quarters, includes further study in basic medical sciences, clinical fundamentals, and pathophysiology of disease. The junior and senior years are a continuum of education of 94 weeks total: 48 weeks required clinical clerkships, 30 weeks of electives which stress the scientific basis of diseases of specific organ systems: advanced clinical clerkships and clerkships in primary medicine. Schedule choices are submitted by students and a computer system is employed to arrange programs as equitably as possible.

Individual Programs of Study

Special programs of study for individual students may be arranged within the framework of the medical school curriculum. Normally these programs are available only after the student has completed the first year and with the approval of the Dean's Office and the chairman of the department responsible for the additional course work. Every effort is made to maintain flexibility within the medical school curriculum, although extensive changes in the course of study can be arranged for only a limited number of students.

Graduate Work

Graduate work leading to the M.S. and/or Ph.D. degrees is offered, either separately or in conjunction with the M.D. program, in anatomy, biological sciences, pharmacology, physiology, psychiatry, and radiology. Students in graduate divisions who have completed courses in the School of Medicine must apply to the first year class in order to be considered by the Admissions Committee. See the departmental announcements elsewhere in this catalog for further information. For details concerning the medical curriculum, you are invited to consult the UCLA Announcement of the School of Medicine.

Admission to the School of Medicine

The School of Medicine on the Los Angeles campus admits 144 freshmen students each fall. Application cards and medical school catalogues for the class entering September 1979 are available from the Office of Student Affairs, UCLA School of Medicine, Los Angeles, California 90024, June 1-October 15, 1978. Applications are available from the American Medical College Application Service (AMCAS). The $30 fee charged by AMCAS for application to any of the five participating medical schools covers UCLA's initial screening of applications. If an applicant is granted an interview, a non-refundable fee of $20 is required.

Requirements

Ordinarily a baccalaureate degree is required for admission; but in certain instances outstanding students who have completed three full academic years at an accredited college or university are accepted. College years should be devoted to obtaining as broad an education as possible. The major objectives should be the following:

1. Competence in English, written and spoken; and
2. Capacity for quantitative thinking represented by mastery of mathematics; (3) such training in physical and biological science as will facilitate comprehensive understanding of medicine and the scientific method; and (4) insight into human behavior, thought and aspiration from study in the social sciences and humanities.

These objectives will ordinarily require completion of the following studies:

Required Courses:

English One year of college English to include the study of English composition.

Physics One year of college Physics (with lab)

Chemistry Two years of college chemistry to include the study of inorganic chemistry, quantitative analysis and physical chemistry. In addition, the study of biochemistry is highly recommended.

Biology Two years of college biology to include the study of cellular, molecular, developmental and genetic biology. This will include at least one year of upper division courses.

Mathematics One year of college mathematics to include the study of college algebra. In addition, the study of introductory calculus is also highly recommended.

Courses (e.g., human anatomy) which overlap in subject matter with those in the School of Medicine are not advised. However, advanced or specialized courses in biological science (e.g., cellular physiology) are desirable.

Completion of Requirements

The premedical requirements must be completed before beginning the first year of medical studies, although these requirements need not be completed at the time the application for admission is filed.

Physical Examination

Accepted candidates must pass a physical examination before registering.

Basis of Selection

Candidates will be selected on the basis of the following considerations:
1. Undergraduate and, where applicable, graduate academic achievement.
2. Score on the Medical College Admission Test, which is administered for the Association of American Medical Colleges by the Psychological Corporation.
3. Interview by a member or members of the Admissions Committee.
4. Evaluation of the applicant's accomplishments and character in letters of recommendation.

The Committee on Admissions selects candidates who present the best evidence of broad training and strong achievements in college, a capacity for nature interpersonal relations, and the traits of personality and character conducive to success in medicine. Preference is not given to students who major in natural science, since study in the social sciences and humanities is considered equally valuable.

Advanced Standing
Transfer students are accepted into the junior year only. Transfer applications may be submitted November 1-February 1 to the Office of Student Affairs in room 12-109 of the Center for Health Sciences.

The School of Nursing
If you are interested in the academic program offered by the UCLA School of Nursing—on the graduate or baccalaureate level—you are urged to request a copy of the Announcement of the School by writing to the School of Nursing, Student Affairs Office, University of California, Los Angeles, California 90024.

Description and Philosophy
Schools of nursing differ in their professional focus on education and research. It is therefore pertinent to state the School's view of the profession which serves as a basis for its undergraduate and graduate programs. Basic to the philosophy of the School is the belief that it is the right of all individuals to receive optimal health care. Nursing shares with other health sciences the goal of promoting health for individuals and communities as well as the responsibility for the care, comfort, and dignity of patients in acute, chronic, and terminal illness.

To accomplish this goal, nurses function as independent practitioners, in collaboration with other members of the health team and in a medical supportive role. Based on scientific knowledge and technical skill, the practice of nursing focuses on promotion of health, prevention of illness, and support of the resources of the person who is ill.

Nursing concerns include expansion of knowledge essential to the nursing process, new methods of care, and improvement of health care delivery systems. In implementing the philosophy of nursing, the curriculum concentrates on the behavior of man as he moves through the health-illness continuum.

The programs provide for an understanding of the social and cultural systems in which living and caring take place and for an understanding of man's psychology and physiology under normal and pathological conditions. Nursing research is stressed throughout the programs as the means for the development of new knowledge.

You can find a detailed description of the School of Nursing studies in the "courses" section of this Catalog.

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.

Curricula
The Baccalaureate Program
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 if provided in hospitals, outpatient clinics, homes, and community health centers. Students who are licensed nurses will complete the same curriculum as other students in the baccalaureate program. However, registered nurses may challenge upper division nursing courses.

The School of Nursing offers a curriculum sequence which affords students the opportunity to sit for the California Registered Nurse licensing examination at the conclusion of the junior year. Interested students must maintain each quarter a minimum GPA of 3.0 and petition the Dean to enroll beyond the four quarter courses usually permitted. Students are reminded that many states do not reciprocally honor California nursing licenses obtained prior to completion of a baccalaureate degree. Students who plan to follow this sequence should contact the Assistant Dean for Student Affairs before the beginning of the freshman year to receive more complete details.

Requirements for Acceptance
Requirements for acceptance include:
1. Admission to the University; (2) completion of 21 courses of college work, including courses required by the School of Nursing. Eligibility for the study of nursing as determined by demonstrated aptitude, recommendations and scholastic achievement. (See the UCLA Announcement of the School of Nursing.) In addition, all non-registered students must have completed an upper division statistics course or a lower division statistics course with content equivalent to Public Health 100A.

Requirements for the Degree of Bachelor of Science
The degree of Bachelor of Science will be granted upon fulfillment of the following requirements:
1. The candidate shall have completed the required 45 courses (180 quarter units) of college work and shall have satisfied the general University requirements.
2. The candidate shall have included in the required 45 courses, at least 21 courses in general education.
3. The candidate shall have completed at least 5 quarter courses (100 quarter units) of upper division course work toward the degree.
4. The candidate shall have maintained at least an overall grade point average of C (2.00) in all courses taken while a student in the School of Nursing.
5. The candidate shall have completed all required nursing courses for nursing in 1951 and shall have received a grade of C or better in the following clinical nursing courses: 101A, 120A,B,C,D,E,F, 190A,B.
6. The candidate is required to have been enrolled in the School of Nursing during the final three quarters of residence; the last nine courses must be completed while so enrolled.

Honors
The faculty of the School of Nursing, or a duly authorized committee thereof, shall recommend for honors and awards bachelor's degree candidates for whom the criteria determined by the faculty of the School of Nursing and the University are met.

The Graduate Program
Under the jurisdiction of the Graduate Division, the School of Nursing administers a program leading to the Master of Nursing degree. Courses provide the opportunity for advanced study in several areas of nursing and research training for increased professional competence. Students specialize in a clinical field and may elect courses which prepare for functional preparation in teaching and administration. The Thesis Plan or the Comprehensive Examination Plan is followed in the Master of Nursing program. For further information about the graduate program in nursing, please consult the UCLA Announcement of The Graduate Division and the UCLA Announcement of The School of Nursing.

Requirements for Acceptance
Requirements for acceptance include:
1. Graduation from a recognized college or university having an NLN accredited baccalaureate nursing program equivalent to that of the School of Nursing, University of California, Los Angeles and the University of California, Los Angeles. Students who have completed other curricula (e.g., students who have graduated from a foreign institution) may be required to enroll in certain undergraduate nursing courses which generally will not be accepted in fulfillment of the requirements for advanced degrees.
2. Status as a registered nurse. Prior to entry into any clinical practicum, evidence of status as a registered nurse in the state of California is mandatory.
3. An upper division statistics course or a lower division statistics course with content equivalent to Public Health 100A is a prerequisite and must be completed prior to entrance into the School of Nursing.
4. Professional and academic competence in nursing attested through letters of recommendation.
5. A scholarship record satisfactory to the Graduate Division, Los Angeles and to the School of Nursing, University of California.

Academic Requirements
The Master of Nursing degree will be granted upon fulfillment of the following requirements:
1. The candidate shall have met the general requirements of the Graduate Division.
2. The candidate shall have completed in graduate status at least ten courses (40 credits) in upper division graduate level courses (100, 200, 400, and 500 series); eight courses must be in nursing, with five courses (20 credits) in the 200 and 400 series. The candidate must successfully pass an upper division practicum, evidence of the fulfillment of the legal requirements for the practice of nursing.

The faculty of the School of Nursing, or a duly authorized committee thereof, shall recommend for honors and awards bachelor's degree candidates for whom the criteria determined by the faculty of the School of Nursing and the University are met.
Because of multidisciplinary concerns, programs of study are available to students whose academic preparation has been in one of various physical, biological or social science areas: for example, bacteriology, medicine, nursing, dentistry, veterinary medicine, optometry, pharmacy, engineering, mathematics, statistics, sociology, psychology, economics, political science, etc.

Through organized programs in the School of Public Health, students entering the field may thus prepare themselves for careers in such basic specialties as epidemiology, biostatistics, nutritional science, and environmental health sciences. They may also prepare themselves for the challenges of community well-being such as the operation of hospitals, health maintenance in industry, the health education of the public, organization of medical care, behavioral sciences in public health, and community health administration.

You can find information on "pre-public health" programs in the "undergraduate education" section of this catalog.

Degrees Offered

The School of Public Health offers the following degrees: Bachelor of Science in Public Health, Master of Public Health, Doctor of Public Health, Master of Science in Public Health in Biostatistics, and Doctor of Philosophy in Biostatistics.

Preparation for the Major

Preparation for the major consists of the following:

2. Foreign Language: two years of one language in high school.
3. Two years of high school mathematics.
4. One course from English 3 or 4, Humanities 2A or 2B.
5. Physical Science: Chemistry 11A, 11B, 11C, 31C. For Chemistry 11A, 15, and an elective course in a physical science for students who plan to specialize in Consumer Health Information and Education; Mathematics 1B or 3A.
7. Social Sciences: three courses.
8. Humanities: three courses.
9. Additional courses in chemistry, mathematics, natural sciences, or social sciences recommended by the student's advisor.
10. Requirements for the Bachelor's Degree

1. The candidate shall have completed at least 45 courses (152 quarter units) in college work, of which at least the last 9 courses (36 quarter units) must have been completed while enrolled in the School of Public Health. Not more than 18 of the above 36 quarter units may be completed in summer session on the campus of residence.
2. The candidate shall have completed at least 13 courses (52 quarter units) in upper division (numbers 100 through 199). At least 6 courses must have been completed while enrolled in the School of Public Health, 4 of which must have been in the major.
3. The candidate shall have maintained a "C" (2.0) average in all courses taken, shall have satisfied all of the course requirements in preparation for the major as well as those required in the major.
4. The candidate is not normally expected to take more than 180 quarter units to obtain the bachelor's degree. Except in rare cases, approved by the Dean, the candidate will not be permitted to continue after completing 208-quarter units.
5. Credit limitations

a) Prior approval by the advisor and the Dean is required before a student may enroll in a course for "passed/not passed" credit; however, courses in the major may not be taken on a Passed/Not Passed basis.

b) Only 4 quarter units of physical education courses may be counted toward degree credit.

c) Public Health 199: Open to seniors who must petition before enrollment; limited to 4 units each quarter; no more than 16 units may be counted toward degree credit.

d) Courses in the 200 or 400 series: Candidate must secure approval from the advisor and the Dean before enrolling in these courses, unless the course is a requirement of the major.

e) Concurrent enrollment: Concurrent enrollment in University Extension or at another institution is permitted only under extraordinary circumstances and with prior approval from the advisor and the Dean.

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

g) Enrollment limitations: The candidate must enroll in no less than 12 or more than 16 1/2 quarter units each quarter. Exception requires approval of the advisor and Dean. A student on probation may be given other limitations.

h) A single course can not be used to satisfy two distinct course requirements.

Requirements for the Bachelor's Degree

1. A student majoring in Public Health selects an area of concentration for a major from one of the following: Biostatistics, Consumer Health Information and Education, and Nutritional Science.

2. The candidate shall have completed at least 45 courses (152 quarter units) in college work, of which at least the last 9 courses (36 quarter units) must have been completed while enrolled in the School of Public Health. Not more than 18 of the above 36 quarter units may be completed in summer session on the campus of residence.

3. At least 13 courses (52 quarter units) in upper division (numbers 100 through 199). At least 6 courses must have been completed while enrolled in the School of Public Health, 4 of which must have been in the major.

4. The candidate shall have maintained a "C" (2.0) average in all courses taken, shall have satisfied all of the course requirements in preparation for the major as well as those required in the major.

5. Credit limitations

a) Prior approval by the advisor and the Dean is required before a student may enroll in a course for "passed/not passed" credit; however, courses in the major may not be taken on a Passed/Not Passed basis.

b) Only 4 quarter units of physical education courses may be counted toward degree credit.

c) Public Health 199: Open to seniors who must petition before enrollment; limited to 4 units each quarter; no more than 16 units may be counted toward degree credit.

d) Courses in the 200 or 400 series: Candidate must secure approval from the advisor and the Dean before enrolling in these courses, unless the course is a requirement of the major.

e) Concurrent enrollment: Concurrent enrollment in University Extension or at another institution is permitted only under extraordinary circumstances and with prior approval from the advisor and the Dean.

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

g) Enrollment limitations: The candidate must enroll in no less than 12 or more than 16 1/2 quarter units each quarter. Exception requires approval of the advisor and Dean. A student on probation may be given other limitations.

h) A single course can not be used to satisfy two distinct course requirements.

Major in Public Health

A student majoring in Public Health selects an area of concentration for a major from one of the following: Biostatistics, Consumer Health Information and Education, and Nutritional Science.

General Requirements for the Major

Required are Public Health 100A, Introduction to Biostatistics; Public Health 110, Introduction to Medical Science or Public Health 111, Human Disease and Public Health; Public Health 112, Principles of Epidemiology, Public Health 150, Environmental Health (not required for students whose field of concentration is Nutritional Science); and Public Health 180, Introduction to Public Health. Public Health 153, Public Health Microbiology or an equivalent of the instructor Bacteriology 101, Introduction to Bacteriology, required for Nutritional Science students.

Requirements for the Field of Concentration

Biostatistics

The Biostatistics program prepares students in the application of biostatistics to the broad field of Public Health and the evaluation of health programs.

Mathematics 31A-C, 32A-C, 152A-B (or 150A-C), Public Health 101A, 101B, 100C, (or 100A-100D).
102. Every student will be required to take courses and study in depth at upper division level an additional subject area as a basis for application of statistical methods and theories.

**Consumer Health Information and Education**

This program prepares a student to work as a consumer health advocate and health information and promotion specialist.

A minimum of four courses are to be selected from among: Public Health 130, 160, 170, 182, 183, 184. Another minimum of four are to be selected as a minor from one of the following fields of concentration: Communications, Organizations, Behavior, in consultation with an academic advisor.

**Nutritional Science**

In this program students become acquainted with the basic nutritional factors and components of health.

Mathematics 3B, 3C, Chemistry 21, 23, 25; Physics 3A, 3B, 3C; Public Health 162, 163, 164, 165, 167. Electives will be chosen in consultation with an academic advisor.

**Counseling**

Open counseling is offered at Orientation to Public Health Meetings each quarter. Further assistance is given by appointment with the Student Counselling Office in the 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 is intended to prepare the student in depth with a specialty, culminating in research activity and a thesis or a comprehensive examination.

**Admission Requirements**

Applicants must meet the University minimum requirements of an accredited bachelor's degree with a B average in upper division and prior graduate study and satisfactory performance on the Graduate Record Examination. The bachelor's degree must be in a field of study appropriate to Public Health field in which the student desires to major. In addition, it is necessary that the applicant can be accommodated in the Division of the Department of Public Health in which he/she wishes to study.

No screening examination or specified courses are required. However, if the student's undergraduate coursework has been deficient in breadth of fundamental training and fails to provide a proper foundation for advanced work in the Department, it will be necessary for the student to take specified undergraduate courses after admission.

**Advising**

An advisor is appointed for each beginning master's student by the Division Head of the respective Division. Students who need assistance in deciding upon a Division should speak to the Dean of Students who can be reached through the Office of Student Affairs.

The student and the advisor together agree upon a study list for each academic quarter and any alteration for advanced work in the Department, it will be nominated by the Division Head after consultation with the student and his advisor. A departmental Guidance Committee is established when the student has completed approximately half the program for the master's degree. The members of the departmental Guidance Committee are nominated by the Division Head after consultation with the advisor and the student and approved by the Department Chairman.

**Normal Progress Toward the Degree**

From graduate enrollment to award of the degree (comprehensive examination plan) normal progress is from three to six quarters. From graduate enrollment to award of the degree (thesis plan) normal progress is seven quarters. Upper time limit for either plan is seven quarters of enrollment. This limitation includes quarters enrolled in previous graduate study at the University of California prior to admission to the master's degree program.

**Thesis Plan**

A thesis Committee is established after a student has been here three quarters. The Thesis Committee of a minimum of three faculty members is recommended by the Department Chairman after consultation with the student and the student's advisor and appointed by the Dean of the Graduate Division. The Committee approves plans for the thesis prior to the student's filing for Advancement to Candidacy. At least two of the faculty members must be from inside the Department. No member outside of the Department is required.

The thesis must be acceptable to the Thesis Committee. A copy of the thesis is submitted to the Graduate Division for approval.

**Comprehensive Examination Plan**

If the Comprehensive Examination option is approved for the student, a Comprehensive Examination Committee of a minimum of three faculty members is appointed by the Chairman of the Department on the recommendation of the Division Head. There must be a written comprehensive examination on the student's major area of study. A student who fails may be reexamined no more than once. The preparation of a major written research report is required which must be approved by a two-member Committee which may overlap with the Comprehensive Examination Committee.

**Major Fields or Subdisciplines**

The areas of specialization offered in the M.S. degree program are as follows: Behavioral Sciences and Health Education; Environmental Health Science; Epidemiology; Health Planning and Health Policy Analysis; and Nutritional Science.

**Course Requirements**

The students must complete an approved program including a minimum of nine courses at least five of which must be graduate level courses in the 200 or 500 series.

Unless previously taken, mandatory courses for the M.S. degree are (at least 3 courses, 12 units of credit):

1. Introduction to Biostatistics (Public Health 100A)
2. Introduction to Biostatistics (Public Health 100B)
3. Principles of Epidemiology (Public Health 112) (Prerequisite: PH 110. Introduction to Medical Science or PH 111, Human Disease and Public Health)

The CORE courses can be waived if the student has taken a similar course elsewhere and can pass the waiver examination.

The remaining courses (at least 6 courses, 24 units of credit) are determined by the student's choice of an area of specialization, and include the requirement of two research methodology courses.

**Disqualification and Appeal of Disqualification**

Students must maintain a 3.0 GPA. If a student's GPA falls below 3.0 it must be raised to 3.0 by the end of the following quarter. Also, a student will be terminated if he fails the comprehensive examination twice or if he fails to complete the required course work in seven quarters of enrollment.

Appeals can be made by the student utilizing the standard blue petition form. The petition must be approved by the advisor, the Division Head, the Dean of students, and the Dean of the Graduate Division.

**Master of Science in Biostatistics**

**Admission Requirements**

For admission to the Master of Science in Biostatistics the student must have completed the bachelor's degree with a major in statistics, mathematics, or in a field of application of biostatistics, and have demonstrated competence by satisfactory performance on the Graduate Record Examination Aptitude Test. Undergraduate preparation for the program should include Mathematics 31C, 32A-C (second-year calculus) or the equivalent.

**Advising**

Advisors are assigned by the Division Head to new students upon their admission. Thereafter, they meet with the students each quarter and discuss their academic progress.

**Normal Progress Toward the Degree**

From graduate admission to completion of required courses, the Comprehensive Examination, Master's Report, and award of the degree normally takes three to six quarters. The upper time limit for completion of all requirements is seven quarters of enrollment. If a leave of absence is taken, a maximum of 12 elapsed quarters is allowed. This limitation includes quarters enrolled in previous graduate study at the University of California prior to admission to the master's degree program.

**Comprehensive Examination**

The Comprehensive Examination Committee is appointed by the Head of the Biostatistics Division. The written Comprehensive Examination is on the major field only. It is taken during the Spring Quarter of the Academic year of the student's Public Health 200A sequence. A student who fails the examination is allowed to repeat it only once; the time of the re-examination is specified by the Division. A student who does not take the re-examination at the specified time forfeits his right to re-examination.

**Course Requirements**

The M.S. degree in Biostatistics requires a minimum of nine graduate and upper division courses, of which at least five are graduate courses (200 and 500 series), and a comprehensive examination. The five required graduate courses must be in biostatistics or mathematical statistics, including at least three courses in biostatistics. Unless previously taken the following courses must be included in the degree program:

1. Public Health 101A, 101B (Basic Biostatistics), 100C (Introduction to Biostatistics)
2. Public Health 200A, 200B, 200C (Biostatistics)
3. Public Health 201A, 201F, 201G, 201J (Special Topics) (Any two courses from this group)
4. Public Health 204E (Seminar in Biostatistics)
The student and the advisor together agree upon a study list for each major field. Students who need assistance in deciding upon a Division should speak to the appropriate representative in the Division of Biostatistics.

The student is expected to complete all the required coursework within the seven quarters of enrollment. This limitation includes quarters enrolled in previous graduate study at the University of California prior to admission to the master's degree program. Maximum time allowable from enrollment in the M.P.H. program to graduation is five years.

**Comprehensive Examination**

The Comprehensive Examination Committee consists of three faculty members appointed by the Chairman of the Division. A Comprehensive Examination in the CORE courses and an examination in the student's major field are required. A student who fails may be re-examined no more than once.

**Major Fields or Subdisciplines**

The School of Public Health offers the Master of Public Health degree in the following areas of concentration: Biostatistics; Environmental Health; Epidemiology; Health Education; Health Services Management; Nutritional Science; and Population, Family and International Health.

**Course Requirements**

Award of the M.P.H. degree requires a minimum number of acceptable courses as specified by each program. The minimum number of courses required is 11 in an approved program, but frequently the student is required to take more than this minimum depending upon his background and field of study. This minimum may be reduced to ten for students with suitable previous graduate studies in health fields (such as physicians) if appropriate for the field of study. At least five of these courses must be graduate courses (200, 400, and 500 series).

Unless previously taken, mandatory courses for the M.P.H. degree are currently at least 3 courses, 12 units of credit:

1. Introduction to Biostatistics (Public Health 100A)
2. Principles of Epidemiology (Public Health 112) (Prerequisite: PH 110, Introduction to Medical Science or PH 111, Human Disease and Public Health)
3. Health Services Organization (Public Health 130)

Under development is a course "Principles of Environmental Health," which will become a mandatory CORE course effective Fall 1980. The CORE courses can be waived if the student has taken a similar course elsewhere and can pass the waiver examination.

The remaining courses (at least 8 courses, 32 units of credit) are determined by the student's choice of an area appropriate for his/her goals. The student and the advisor together agree upon a study plan for each academic quarter and any alterations must be approved by the student's advisor and the Dean of Students before submission to the Graduate Division. The student is expected to meet with the advisor each quarter.

A departmental Guidance Committee is established when the student has completed approximately half the program for the master's degree. The members of the departmental Guidance Committee are nominated by the Division Head after consultation with the advisor and the student and are approved by the Department Chairman.

**Normal Progress Toward The Degree**

From graduate enrollment to award of the degree, normal progress is five to seven quarters. Upper limit for completion of all requirements is seven quarters of enrollment. This limitation includes quarters enrolled in previous graduate study at the University of California prior to admission to the master's degree program. Maximum time allowable from enrollment in the M.P.H. program to graduation is five years.

**Advising**

An academic advisor is assigned to each new student by the Division of the Division he/she enters. The student and the advisor together agree upon a study list for each academic quarter. After the student is enrolled for one quarter a three-member Guidance Committee is established, which includes the advisor in the major field and the advisor in the minor field.

**Normal Progress Toward the Degree**

Normally students will not be admitted to the doctoral program until after they have completed a master's degree. But if the student has not completed a prior master's degree program, admission to the doctoral program should take place by the 6th quarter of residence. Doctoral preliminary examinations should be completed by the 10th quarter of residence. If the student has completed a master's degree program, the written and oral examinations should be completed by the 4th quarter of residence. From completion of the oral qualifying examination to final oral defense should take three quarters. Maximum time allowable for formal enrollment in the graduate program is 30 quarters. This limitation includes quarters enrolled in previous graduate study at the University of California prior to admission to the doctoral degree program. Maximum time allowable from enrollment in the graduate program in the School of Public Health and completion of the degree is eight years.

**Final Oral Examination**

Required of all candidates. Re-examination after failure is determined on an individual basis.
Major Fields or Subdisciplines
The School of Public Health offers the Doctor of Public Health degree in the following areas of concentration: Behavioral Science and Health Education; Biostatistics; Environmental Health Science; Nutrition Science; Epidemiology; Health Services; and Population, Family and International Health.

Required Courses, Written and Oral Qualifying Examinations
The course requirements needed to pass the written examination in the major field depend upon the Division and field which the student enters. Before advancement to candidacy, the student must pass written examinations in the major and minor field and the oral qualifying examination. The written examination in the major field is prepared and administered by the Guidance Committee or by the faculty of the Division. The conduct of the written examination in the minor field is the responsibility of the representative from the minor field or the Guidance Committee. One re-examination after failure is allowable, and more than one would be granted only in unusual circumstances.

When the student is ready to take the oral qualifying examination, a Doctoral Committee is nominated by the Chairman of the Department after consultation with the student and the advisor and appointed by the Dean of the Graduate Division. This normally takes place after the student has made a tentative decision on a dissertation topic. The Doctoral Committee consists of at least five faculty members who hold regular professorial appointments. Three of the five must hold appointments in Public Health, and one must be from the minor field. The minor field is usually from inside Public Health, but could be from outside the Department. A minimum of four graduate courses in the minor field is recommended.

The Doctoral Committee administers the oral qualifying examination after the student has successfully completed the written examination. The oral examination is usually a defense of the dissertation proposal. All members of the doctoral committee examine the candidate during the required final oral examination and read, approve, and certify the dissertation. A student will not be considered to have passed the final oral examination with more than one "not passed" vote by the committee. A copy of the dissertation is submitted to the Graduate Division for approval.

Disqualification and Appeal of Disqualification
Students must maintain a 3.0 GPA. Students must also pass the written qualifying examinations in the major and minor fields on either their first or second attempts. Students must complete all requirements for the degree within eight years.

Appeal of disqualification requires approval of the student's advisor, Division Head, and Department Chairman prior to the oral qualifying examination and requires approval of the Chairman of the Doctoral Admissions Committee, Division Head, and Department Chairman after the oral qualifying examination.

The Doctor of Philosophy Degree (Ph.D.) in Biostatistics
A program of study leading to the degree of Ph.D. in Biostatistics is offered. You are advised to read the UCLA Announcement of the Graduate Division for general University requirements. The student's program of study must be approved by the Division of Biostatistics and must include at least three areas of knowledge: biostatistics, mathematical statistics, and a biomedical field such as biology, epidemiology, infectious diseases, medicine, microbiology, pharmacology, physiology, psychology, zoology, or public health. Recommendation for the degree is based on the attainment of the candidate rather than on the completion of specified courses.

Requirements
Qualifications for admission to the program of graduate studies in Biostatistics for the Ph.D. degree are the current requirements of the Graduate Division, including satisfactory performance on the Graduate Record Examination Aptitude Test. 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 their admission. This examination is comparable to the M.S. comprehensive examination.

Advising
An advisor is appointed for each beginning doctoral student by the Division Head. Thereafter they meet with the student each quarter and discuss his/her academic progress. When the student advances to candidacy, the advisor in the minor field may be used.

Written and Oral Qualifying Examinations
A written examination in Biostatistics, in Mathematical Statistics, and in the student's selected biomedical field, are taken before advancement to candidacy. The Biostatistics examination is written by the faculty in Biostatistics, the mathematical statistics examination by the faculty of the Mathematics Department, and the biomedical field examination by a qualified person in the biomedical field at UCLA.

The qualifying oral examination is taken before advancement to Candidacy: the final oral examination is taken after completion of the dissertation. Any examination which is failed may be repeated once. The time of re-examination is specified by the Division in the case of the written examinations or by the student's committee in the case of the oral examination. A student who does not take the examination at the normal time forfeits his right to a re-examination.

Normal Progress Toward the Degree
From admission to the doctoral program to the written and oral qualifying examinations and advancement to candidacy usually takes nine quarters or less. From advancement to candidacy to the final oral examination usually requires three quarters. Usually 12 quarters are required from graduate admission to award of the degree. A student must advance to candidacy within nine quarters after passing the comprehensive examination. The Ph.D. degree must be awarded within nine quarters after advancement to candidacy.

Maximum time allowable for the attainment of the degree is 20 quarters of enrollment. This limitation includes quarters required for a previous graduate study at the University of California prior to admission to the doctoral degree program. A copy of the dissertation is submitted to the Graduate Division for approval.

Disqualification and Appeal of Disqualification

The Doctor of Philosophy Degree (Ph.D.) in Public Health
A program of study leading to the degree of Ph.D. in Public Health is available in behavioral sciences and health education, environmental health science, epidemiology, health services and nutritional sciences. This program provides preparation for careers in teaching and research.

Requirements
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.P.H. before admission), (3) at least a 3.0 Junior-Senior GPA and at least a 3.5 in graduate studies or demonstrated superiority in graduate work, (4) a positive recommendation by a Division of the Department of Public Health, (5) approval by the Doctoral Admission Committee, and (6) approval by the Department Chairman.

No screening examinations are required with the exception of the Behavioral Science and Health Education field. Here if a student does not take a M.S.P.H. from UCLA he/she must take the master's qualifying examination within one year of admission and pass with an excellent score.

Advising
An academic advisor is assigned to each new student by the Division Head of the Division. The advisor together agrees upon a study list for each academic quarter. After the student is enrolled for one quarter a three member Guidance Committee is established which includes an advisor in the major field and an advisor in the minor field.

Course Requirements
The course requirements needed to pass the written examination in the major field depend upon the Division which the student enters. Before admission to candidacy, the student must pass written examinations in the major and minor fields, foreign language examination, and the oral qualifying examination. The written examination in the major field is prepared and administered by the Guidance Committee or by the faculty of the Division. The written examination in the minor field is prepared and administered by the representative from the minor field or the Guidance Committee.

One re-examination after failure is allowable but more than one would be granted only in unusual circumstances.

Foreign Languages
One foreign language relevant to the student's major area is required and approved by the Guidance Committee, using a method acceptable to the Graduate Division (usually an ETS examination given on campus with a minimum score of 500). It must be taken before the oral qualifying examination. If the student's native language is not English, English may be used.
Applications for candidates who have completed the first-year program in the UCLA School of Social Welfare at some prior time and wish to return for completion of work toward the master's degree in social welfare will be considered on an individual basis. If more than five years have elapsed since completion of the first year's work, candidates may be required to enroll for the full two-year program.

**Part Time Study**

Because of the continuing high demand for admission to full-time study for the M.S.W. degree program, enrollment on a part-time study basis has been suspended for the present.

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**Readmission**

In this section of the General Catalog, you will find a listing and description of the many resources—people as well as publications—available to help you get the most out of your academic education at UCLA. It is important that you recognize, whether you are an undergraduate or graduate student, that the services discussed below are offered in addition to departmental, division or school/collge programs of advice and counsel which were outlined in previous sections of this book.

**Different Advisors**

And, since different types of advisors have different functions, it might be useful to keep those more or less distinct roles in mind.

- **College or School Advisors** answer general questions about the college or school as well as give out information about various petitions, filing procedures and deadlines.
- **College or School Counselors**, on the other hand, can show you how college/school or university academic regulations apply to your individual situation.
- **Departmental Counselors** provide you with information about the courses within their department; information on departmental and major requirements (and advice on meeting them) are also available.

Additionally, departmental counselors may be aware of study, research and employment opportunities in your area of academic interest. Faculty Advisors can advise you on questions pertaining to course work and offer guidance on research projects or independent study to supplement your courses.

Remember, too, that every UCLA faculty member is an advisor, and if something is going on in a course they are teaching, Professors keep office hours for students to ask questions and try out ideas.

Those hours are one of the most valuable parts of your academic experience. Use them.

**Peer Counselors** are trained students who can give you an informed "students-eye" view on program planning.

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**Academics: Resources to Help You**

**Before You Need Them**

Here's some advice about advisors: Don't wait until you are in academic difficulty to seek them out—it may be too late. Advisors work with you to avoid problems, so see them "before" you need them.

**Seeing Your Advisor**

Here are some things to keep in mind when you see your advisor. Write down your questions as completely as possible.

Make sure you understand the questions you're asking—and the answers you get. Then, write down the answer. With both your question and the answer to it, ask for clarification until you are sure you fully understand.

Keep a record of your visits, including any printed materials the advisor gives you. In the same way, you are urged to keep a record of your UCLA transactions in general. Save, and carefully store, copies of petitions, grade cards and so forth.

You have the option to try various counselors, to find the one you can relate to most easily.

**The Advisors**

Currently, UCLA offers the following opportunities for advice on academic questions.

**College Counselors**

- College of Fine Arts: A333 Murphy Hall, 825-1554
- College of Letters and Science: 1312 Murphy Hall, 825-3392
- Division of Honors: 1331 Murphy Hall, 825-3786
- Pre-Health Care: 1332 Murphy Hall, Window 9, 825-1817
- Pre-Law: 1312 Murphy Hall, 825-3160

**Departmental Advisors/Counselors**

- Aerospace Studies: 825-1742; Ms. Sally Ann Cohen, 251 Dodd, 825-1743
- African Languages: Linguistics, 2113 Campbell Hall, 825-0634; Ms. Sandra Thompson, 2113 N Campbell, 825-7859
- Analysis & Conservation of Ecosystems: Geophysics, 1255 Bunche Hall, 825-1077; Dr. Hartmut Walter, 1177 Bunche Hall, 825-3116
- Anatomy: 73-235 C.H.S., 825-7516; Dr. E. G. Zimmermann, 73-235 C.H.S., 825-7516
- Ancient Near Eastern Civilizations: Near Eastern Languages, 302 Royce Hall, 825-4165; Dr. John Callender, 376 Kinsey Hall, 825-2145
- Anthropology: 360 Haines Hall, 825-2055; Ms. Gloria Mann, 305 Haines Hall, 825-1341
- Arabic Near Eastern Languages: 302 Royce Hall, 825-4165; Dr. Bonbekker, 302D Royce Hall, 825-2194
- Armenian Near Eastern Languages: 302 Royce Hall, 825-4165; Dr. A.K. Sanjian, 302 Royce Hall, 825-1307
- Art: 1300 Dickson, 825-1770; Ms. Gayle Pica, 1300 Dickson, 825-3077
- Astronomy: 8979 Math Science, 825-3323; Dr. Michael Jrut, 8919 Math Sciences, 825-4302
- Biochemistry: Chemistry, 3010 Young Hall, 825-4219; Dr. Richard Weiss, 5086 Young Hall, 825-3621
- Biology: 2203 Life Sciences, 825-1680; Ms. Roxane Aikassy, 2312 Life Sciences, 825-1680
- Chemistry: 3010 Young Hall, 825-3958; Dr. D. E. Atkinson, 5070 Young Hall, 825-1159; Ms. Dorothy Seumey, 4016 Young Hall, 825-1859
- Chicano Studies: Interdepartment, 3121 Campbell Hall, 825-2363
- Classics: Oriental Languages, 222 Royce Hall, 825-3340; Mr. Kuo-Yi Pao, 212C Royce Hall
- Classics: 7349 Bunche Hall, 825-4679; Mrs. Evelyn Mohr, 7337 Bunche Hall, 825-3775

**Communications Studies**

- Speech: 232 Royce Hall, 825-3303; Ms. Marie Gregory, 232 Royce Hall, 825-2541, 825-3303
- Dance: 205 Women's Gym, 825-3951; Ms. Pauline Adam, 205 Women's Gym, 825-3951
- Design: 1300 Dickson Hall, 825-3281; Ms. Gayle Pica, 1300 Dickson Hall, 825-3077
- East Asian Studies: Interdepartmental, 3232 Campbell Hall, 825-2974; Ron Hiroyo, 3233 Campbell, 825-2394
- Economics: 2263 Bunche Hall, 825-1011; Ms. Londe Carke, 2253 Bunche Hall, 825-5118
- Economics—Business Education: 244 Moore Hall, 825-7635; Mr. L.W. Erickson, 244 Moore Hall, 825-2626
- Engineering and Applied Science: Interdepartmental, 3232 Campbell Hall, 825-2974; Ron Hiroyo, 3233 Campbell, 825-2394
- Computer Science: Electrical Sciences and Engineering
- Energy and Kinetics
- Engineering Systems
- Materials
- Mechanics and Structures
- System Science

**Engineering—Geology Earth & Space Science**: 8306 Geology Building, 825-1475; Prof. Mark Merlitz, 8306 Geology Building, 825-4252
- English: 2225 Rolfe Hall, 825-1389; Ms. Edith Lukein, 4305 Rolfe Hall, 825-1389
- English—Greek: Interdepartmental; See advisors in English and Classics
- English—Latin: Interdepartmental; See advisors in English and Classics
- Ethnic Arts: Interdepartmental, 205 Women's Gym, 825-1391; Ms. Wendy Uffrting, 205 Women's Gym, 825-3951
- French: 160 Haines Hall, 825-1146; Dr. Collette Brichant, 160 Haines Hall, 825-3315
- French—Linguistics: Interdepartmental; See advisors in French and Linguistics
- Geography: 1255 Bunche Hall, 825-1071; Ms. C. Lefebvre, 1255 Bunche Hall, 825-1307; Mr. A. Orme, 1255 Bunche Hall, 825-1307
- Geography-Ecology: Geography, 1255 Bunche Hall, 825-1071; Dr. H. Weller, 1177 Bunche Hall, 825-3116
- Geology: Earth & Space Sciences, 8306 Geology Building, 825-1475; Ms. Spring Kark, 8306 Geology, 825-3197
- Geophysics and Space Science: Earth and Space Science, 3367 Geology Building, 825-3231; Dr. H. Keffer, 3367 Geology Building, 825-7572
- German: Germanic Languages, 310 Royce Hall, 825-3955; Prof. Lyon (A thru Z), Prof. Stephan (M thru Z), 310 Royce, 825-3955
- Greek: Classics, 7349 Bunche Hall, 825-4679; Ms. Evelyn Mohr, 7337 Bunche Hall, 825-3775
- Hebrew: Near Eastern Languages, 302 Royce Hall, 825-1139; Dr. Herbert Davideou, 302D Royce Hall, 825-4165, 825-1294
- History: 6265 Bunche Hall, 825-1069; Ms. Sylvia Dillon, 6248 Bunche Hall, 825-3170
- Humanities: Interdepartmental, 825-7650; Dr. A. Band, 302 Royce Hall, 825-3756
- Italian: Near Eastern Languages, 302 Royce Hall, 825-4165; Dr. John Callender, 376 Kinsey, 825-2345
- Islamic Studies: Center for Near Eastern Studies, 10286 Bunche Hall, 825-4668; Dr. Michael Morony, 6265 Bunche, 825-3215
- Italian: 340 Royce Hall, 825-3246; Dr. Franco Masciandaro, 340A Royce Hall, 825-3055
Science, Spanish, or Theater Arts, as well as Italian.

Sandra Thomson, Latin 2113 Campbell Hall, 825-0634; Dr. Robert C. Epp, 222 Royce Hall, 825-8165

Kinesiology 124 Women's Gym, 825-4500; Ms. Karen Wallace, 124 Women's Gym, 825-4500

Latin Classics, 7349 Bunche, 825-4679; Ms. Evelyn Mohr, 7337 Bunche Hall, 825-3773

Linguistics 2113 Campbell Hall, 825-0634; Prof. Sandra Thomson, Prof. Pamela Munro, 2113 Campbell, Prof. Russell Schuh, 2133 Campbell, 825-5069

Linguistics—English, French, Italian, Philosophy, Psychology, Oriental Languages Students wishing to major in any of these six Interdepartmental majors should consult the Undergraduate Advisor in the Linguistics Department, as well as the Undergraduate Advisor in the other Department involved.

Mathematics 6356 Math Sciences, 825-4701; Ms. Sally Yamashita, 6356 Math Sciences, 825-4701, Dr. Brown, 825-4701.


Meteorology Atmospheric Sciences, 7127 Life Sciences, 825-1954; Dr. J. Ediger, 7101 Math Sciences, 825-3067.

Microbiology 5304 Life Sciences, 825-3578; Dr. W.R. Romig, 5925 Life Sciences, 825-4425.

Military Science 825-7381; To be arranged.

Motion Picture—Television Theater Arts, 2310 MacGowan Hall, 825-3303; Mr. Jim Birge, 1319 MacGowan Hall, 825-3303.

Music 2449 Schoenberg Hall, 825-4761; Ms. Linda Palmer, 2438 Schoenberg Hall, 825-4761.


Near Eastern Languages 302 Royce Hall, 825-4165. To be arranged.

Oriental Languages 222 Royce Hall, 825-3440; See Chinese or Japanese.

Philosophy 321 Dodd Hall, 825-4641; Dr. Donald Kalish, 366 Dodd Hall, 825-1476, 825-4641.

Physics 3-174 Knudsen Hall, 825-3440; Dr. Robert Setten, 825-2522; Dr. Ernest Afers, 3-168 Knudsen Hall, 825-3641; Ms. Julie Sturm, 3-145A Knudsen Hall, 825-2453.

Political Science 4289 Bunche Hall, 825-4331; Ms. Vicki Waldman, 4250 Bunche Hall, 825-3862.

Portuguese Spanish and Portuguese, 5303 Rolfe Hall, 825-1036; Ms. Isabel Hertoghe, Eduardo Dias, 5303 Rolfe Hall, 825-1036.

Pre-Pharmacy Same as above.

Pre-Physical Therapy Same as above.

Psychology 1283 Franz Hall, 825-2961; Kristen Minta, 825-2949, 825-2730, 1531 Franz Hall. Also for: Psychobiology and Quantitative Psychology.

Public Health School of Public Health, 51-279 C.H.S., 825-5144; Ms. Oliver Johnson, 51-279 C.H.S., 825-5775.

Scandinavian Languages 310 Royce Hall, 825-2432; Dr. Mary-Kay Norring, 310 Royce Hall, 825-1606.

Semiotics Near Eastern Languages, 825-4165; To be arranged.

Slavic Languages 115 Kinsey, 825-2676; Dr. Michael Heim, 115-1 Kinsey, 825-7894.

Sociology 2449 Haines Hall, 825-1313; Ms. Mary Jo Johnson, 247 Haines Hall, 825-1215.

Spanish Spanish and Portuguese, 5303 Rolfe Hall, 825-1036; Dr. Susan Plann, 5304 Rolfe Hall, 825-1036.

Speech 232 Royce Hall, 825-3303; Ms. Marle Gregor, 232 Royce Hall, 825-2541.

Theater Arts 2130 MacGowan Hall, 825-5761; Mr. Jim Birge, 1319 MacGowan Hall, 825-1766.

Turkish Near Eastern Languages, 302 Royce Hall, 825-4165; Dr. Redegörgü, 302 Royce Hall, 825-4165.

About ASK

ASK is a network of 16 trained student counselors. ASK also sponsors meetings about educational and career concerns of UCLA students. ASK gives you a chance to get the guidance you need in an informal, conversational context.

You can find ASK at these locations:

- Days Ackerman Union Monday-Friday 10 a.m. to 3 p.m.
- Campbell Hall (North entrance) Monday-Friday 11 a.m. to 1 p.m.
- Powell Library Monday-Friday 11 a.m. to 1 p.m.
- Court of Sciences Monday-Friday 10 a.m. to 2 p.m.
- Evenings All four undergraduate dorms Monday-Thursday 5:30 to 7:30 p.m.

If You’re a “Pre Health Care” Student

Specific counselors/advisors are listed below. You may also find general information as well as specific counseling about the Pre-Health Care Advising Office is in 1332 Murphy Hall, Window 9, phone 825-1817. ASK Counselors in the Court of Sciences can provide further information and can arrange a meeting by telephone.

- Pre-Dental—School of Dentistry 53-038, School of Dentistry, 825-1817;
- Pre-Medical—School of Medicine, 825-1817;
- Pre-Optometry, and Pre-Physiological Therapy—School of Dentistry, 825-1817.

If You’re a “Pre Law” Student

Within each unit, students participate with faculty members and fellow students, who will be encouraged to express their opinions and participate in class discussions.

Within each unit, students will be encouraged to work together in small groups to write papers or projects related to the subject.

The program attempts to create a sense of community on campus, and students have the option of majoring in "Commons" available to them to study or socialize.

Each LDP unit approaches a general subject area through the integration of several academic disciplines into one comprehensive "unit" of study. Each unit is under the direction of one faculty member with several other distinguished faculty members also contributing their particular field of expertise.

Within each unit, students participate with faculty in lectures, small discussion groups and seminars, and some of them will be encouraged to express themselves in writing by participating in the writing and submitting papers and projects related to the topics being studied.

For more information about the Lower Division Program, visit 374 Kinsey Hall, or telephone 825-7104.

Programs for Freshman and/or Sophomores

UCLA features a range of programs centered on the concerns of new students. Among them are:

- Orientation

The Orientation Program takes place at UCLA during the summer and prior to the start of the Winter and Spring Quarters. It brings extensive academic counseling to all new undergraduates entering the university. Individual counseling (fulfills the academic advising recommended for all students) and group counseling are offered. Each unit, Orientation gives new students various perspectives for dealing with common problems encountered by new students. Programs for parents also are offered. You can get information on the costs and dates of the Orientation Program by calling 2224 Murphy Hall or by telephoning 825-3626.

Mentor Program

The Mentor Program at UCLA was created to ease the adjustment and acclimation of new students. Faculty, staff and advanced standing students are matched with entering undergraduates in order to personalize the UCLA experience. If you would like more information about the Mentor Program, drop by Campbell Hall 2229 or telephone 825-8425.

Freshman/Sophomore Seminars

Students who are interested in enrolling in their first-year experience at UCLA by benefiting from a program offering small class size, association with a senior faculty member and no prerequisites, should look into the Freshman/Sophomore seminar program.
Credit is given for the Freshman/Sophomore program, applied differently depending upon your college or school. You can get more information in room 374 Kinsey or by telephoning 825-2480.

**Freshman/Sophomore Professional School Seminar Program**

This program introduces students to the relationships which exist between various academic disciplines and professional practice. It also seeks to build upon the common characteristics which link various professions to one another. Students are introduced to these characteristics in the following way:

1. In order to find answers to problems, professionals must bring together information from varying disciplines.

2. Because of the way that social need often drives scientific investigation, all professionals must be sensitive to the complex interplay between basic research and social problems.

3. Professionals must bring their creativity to the task of translating theoretical knowledge into practical application.

4. Professionals are subject to high level and ethical standards because they exercise control over individuals and society.

Students seeking to define their own academic and career goals will find that these seminars provide a valuable opportunity to assess the role of professionals today and to understand the challenges and demands that stimulate professional activity. The program offers an unparalleled opportunity to be exposed to the views of professionals.

Professional School Seminars are usually offered in the winter and spring quarters. They may not be used to fulfill College of Letters and Science Breadth Requirements. Seminar enrollment is limited in an effort to allow lower division students closer contact with an established member of a professional school faculty.

More information is available in room 374 Kinsey Hall, or by telephoning 825-2480.

**Council on Educational Development (CED)**

The Council on Educational Development (CED) was created by the Los Angeles Division of the Academic Senate in May 1968. The Council’s purpose is to promote academic enrichment and encourage educational diversity and innovation. In fulfilling these objectives, the Council works closely with departments, colleges, schools and research centers on the UCLA campus.

The Council seeks out and, upon approval, supports academic projects, programs and individual courses of scholarly excellence not otherwise available in the University, including courses of timely or topical importance. The Council can offer a course as many as three times, although in principle the Council seeks to encourage departments and schools to adopt appropriate courses into their regular curriculum.

For information about CED courses consult the Schedule of Classes and the Registration and other selected issues of the Daily Bruin. If you want to find out about credit towards graduation for CED courses, you should consult your major department, college, or school. The CED office is located in 3121 Murphy Hall; telephone 825-5467.

**Education Abroad Program**

The Education Abroad Program provides opportunities for qualified UC students to earn a full year of academic credit while studying at overseas universities. Currently, there are EAP students enrolled on 44 campuses in 19 different countries. EAP students study with the local students of EAP-affiliated institutions in each country, giving them a unique opportunity to enhance greatly their language skills and to become involved in the culture of the host country, and university.

EAP participating institutions currently include:

- Universities in the United Kingdom
  - Birmingham
  - Kent
  - Edinburgh
  - Leeds
  - London School of Economics
  - Polytechnic of Central London
  - St. Andrews
  - Stirling
  - Sussex
  - Exeter
  - Bath
  - Warwick
  - Westfield College of the University of London
- Universities in France
  - Bordeaux
  - Grenoble
  - Marseille
  - Montpellier
  - Paris (Film Program)
  - Pau-Pays
  - Poitiers
- Universities in Italy
  - Padua
  - Bolgina
  - Venice
- Universities in Norway
  - University of Bergen
- Universities in Spain
  - Barcelona
  - Madrid
- Universities in Sweden
  - University of Lund
- National Autonomous University of Mexico (UNAM), Mexico City
  - University of Sao Paulo, Brazil
  - State University of Leningrad, USSR
  - University of Vienna, Austria
  - Pontificia Universidad Catolica del Peru

Designed primarily for undergraduates, the program is open to students who have upper division standing in the University, an overall B average, seriousness of purpose, and an indication of ability to adapt to a new environment. For the centers in Austria, France, Germany, Mexico, Peru and Spain, two years of university-level work in the language of the country with a B average (or equivalent thereof) are required. For all other centers, the language requirements are variable. Each UC Study Center abroad operates under the supervision of a UC faculty member.

Participants pay only the usual UC Registration and Educational fees. The full range of University financial aids is available. UC units and grade points are awarded for overseas courses. A complete range of orientation services are provided, including opportunities to meet with returned students and students attending UCLA from EAP-affiliated universities. Detailed information sheets about these campuses are available in the EAP office. 2221-B Bunche Hall, or by telephone at 825-4889 or 825-4995.

**Experimental College**

The Experimental College is open to all UCLA Students and offers a variety of innovative classes. There is no credit for Experimental College classes; you are not graded, either. Students also have an opportunity to design- and teach-classes.

You can find out more about the Experimental College by telephoning 825-2272; 409 Kerckhoff Hall.

**EXPO Center (Experiential Programs and Opportunities)**

The Experiential Programs and Opportunities Center serves as an information clearinghouse and placement service for off-campus opportunities and provides UCLA students, faculty, and staff access to experiences which can supplement the traditional educational format of the lecture hall, laboratory and library.

It offers counseling and information in the following areas:

- **International opportunities.** Provides counseling and information on international travel, overseas study programs, courses, internships, and information on visas, passports, health regulations, accommodations, and student discounts. Issue international student identity and youth hostel cards.

- **National opportunities.** EXPO provides information on training programs, internships, grants and fellowships, student hostels, hotel discounts, transportation within the United States; maintains UCLA “ride board.”

- **Local opportunities.** Provides information on cultural, recreational and educational activities throughout Los Angeles and Southern California Area.

The Center offers placement and brokerage services in the following:


- **Voluntary Action Center.** Provides placement opportunities for volunteers in 3200 different social service agencies in Los Angeles requiring skills from sports to clerical.

For more information about EXPO programs, visit A213 Ackerman Union, or telephone 825-0831.

**University Extension**

University Extension, UCLA, offers more than 4200 classes and special programs each year, many of them innovative and experimental in content, for teaching methods, with extensive use of media technology. Extension programs are designed to bring to adults in the community, on a part-time basis, the benefits of the talent, research and resources of the University of California. Credit and non-credit courses in nearly every academic discipline and in interdisciplinary areas provide opportunities for professional/career advancement; for expansion of cultural horizons; for development of scientific literacy; for growth in personal awareness and human interrelationships; for enhancement of capability to assess and deal with the great issues of politics and society in this era of fundamental reappraisal of established ideas and values. In the broad social view, Extension has a primary responsibility for the public service functions of the University, including community development programs and the application of University resources toward the solution of crucial statewide and urban problems.
Programs
Types of programs include regular campus-equiva-
 lent classes; lecture series; discussion groups; con-
 ferences, institutes, and short courses; community
development and other public service programs;
film and television series; correspondence study;
residential programs; sequential certificate pro-
grams; studio/workshop courses in the creative and
performing arts; an extensive creative writing pro-
gram series; family field study trips and foreign
travel-study programs; special programs for the
blind and other handicapped; counseling and test-
ing.
Credit
For information on transferability of credit earned
through Extension toward the Bachelor's Degree at
UCLA, contact the Extension Information and Advi-
sory Service (see "Additional Information"
below).

Continuing Education Units
Many Extension non-credit programs offer the op-
portunity to earn CEU (non-credit Continuing Educa-
tion Units). CEU is awarded for each 10
contact hours of instruction. CEUs are recorded
on the student's transcript. They are widely ac-
cepted for relicensure and other professional/career-
related purposes.

Additional Information
To obtain the current UCLA Extension catalog, call
(213) 825-8895.

An Information and Advisory Service (IAS) is
available to all for assistance in planning long or
short-term study through Extension, for credit or
not for credit. There is no charge for this service.
Those interested may write, telephone or visit the
IAS offices, Room 114, UCLA Extension
Administration Building, at the southwest cor-
corner of the campus, 10775 Le Conte Avenue, Los
Angeles, California 90024. Telephone (213) 825-1251.

Veterans may use the educational benefits available
to them under Federal and State laws to enroll in
University Extension classes, provided the classes
are part of their prescribed and recognized objec-
tives approved by the Veterans Administration.

Summer Sessions
UCLA offers two six-week Summer Sessions each
year. Summer session study is designed to provide
academic enrichment, to help students enroll in
courses they were unable to take during the year
because of schedule conflicts, to correct course de-
cisions and to prepare for graduate school, and
offer to small class size.

Credit
Summer session courses may apply toward the
minimum unit requirement of the College of Letters
and Science of the College of Fine Arts. Consult
the catalog for details.
The fees for Summer Sessions differ from those of
regular academic quarters because Summer Ses-
sions receive no state support.

Admission
Admission to a Summer Session does not constitute
admission to a regular session. Students planning to
attend the University in regular session are re-
ferred to the "admission" section of this catalog.
You can get more information about Summer Ses-
sions from 1254 Murphy Hall; telephone 825-8355.

The University Library
The University Library system on the Los Angeles
campus consists of nineteen libraries which are
designed to serve the study and research needs of
students, faculty, and staff in all the academic and
research disciplines offered on the campus. The li-

braries collectively contain more than 4 million
volumes and extensive holdings of government
publications, newspapers, pamphlets, manuscripts,
microfilms, slide shows, slide films, audio casset-
tes, video cassette, and tape form, and slides. Access
is offered to a wealth of information stored in com-
puterized form. In addition, students, faculty, and
staff have ready access to the collections of the Li-

braries on the large and small California campus-
puses and of libraries throughout the country
through interlibrary loan services. The Library
regularly receives nearly 60,000 serial publications,
which are listed in a library publication, Serials
Pre
tently Received at UCLA. This may be consulted at
principal service points in campus libraries. Card
catalogs in each library and a variety of microfiche
catalog supplements list all cataloged and partial-
ly cataloged books in those libraries. The main card
catalog in the University Research Library lists
holdings in all campus libraries and the William
Andrews Clark Memorial Library.

Students have access to the stacks of most of the li-

braries at UCLA. Orientation to and guidance in the
use of campus library facilities, collections, and
services is available at each campus library. Self-

service photocopiers are available in the campus
library and temporary photocopiers in the library
building. The Graduate Reports Service places books
on reserve in open stacks for graduate courses.

University Research Library
Here are found the principal collections in the
social sciences and humanities, in open stack
arrangement, with seating for 2,000 readers. In
addition the Reference Room, Circulation, and the
Periodical Reading Room, serve as general reference
collections. The Microform Reading Service, hous-
ing some 80,000 reels of microfilm of newspapers,
periodicals, and books, contains a variety of reading
and copying equipment. The Graduate Report
Service places books on reserve in open stacks for
graduate courses.

Extensive study and research facilities are provided
in the University Research Library, including typ-
ing and group study rooms and a self-service photocopy
center.

The College Library
The services and collections of the College Library,
located in the Lawrence Clark Powell Library
Building, are designed to meet most of the basic
study needs of undergraduates. The College Library
book and periodical collections are maintained in
open stacks, with course reserve materials available
for loan at the Circulation Desk. Microform
materials may also be found. Full reference services
are offered at the Reference Desk.

The College Library maintains its Audiovisual Serv-
cices collection of poetry readings, plays, speeches,
and documentaries, and a selection of popular music.
A variety of equipment, including audio cassette and
video cassette players, is available in this special service.
Study carrels and reading rooms are found throughout the
building. Typing facilities are also provided. The College Library also
offers services for self-directed, non-credit courses.
Students are assisted by reference librarians in
use of the library. "Learning Library Skills," for a charge of $5.00.

The Department of Special Collections, in the Research
Library, contains rare books and pamphlets, manu-

scripts, the University Archives, certain sub-
ject collections of books, prints, maps and prints
of early California newspapers.

Other collections of rare materials are the Bell
Library of Vinciana in the Art Library, the Benjamin
Collection of Medical History in the Biomedical Li-

brary, and the Ruskind-Ball Collection of Beaux Arts
and Economic History in the Management Library.

The Public Affairs Service, Located in the Research
Library, this department provides a coordinated
service embracing collections of official publica-
tions of governments and international organiza-
tions and of other books and pamphlets in the social
sciences. It is a depository for the official publica-
tions of the United States government, the State of
California, California counties and cities, the
United Nations and some of its specialized agen-
cies, and a number of other international organiza-
tions. Also available are publications of the
other states and possessions of the United States,
publications of foreign governments, books and
pamphlets on local government, and reference
and pamphlet materials on industrial relations and
Public Affairs. The William Andrews Clark
Dora Haynes Foundation Collection is
administered by the Public Affairs Service. This
service provides access to research data which are
available on computer tape.

Other Campus Libraries
The resources of the special libraries on the campus
are devoted mainly to the subjects of concern to the
special interests to which they are situated. The libraries serve primarily these
departments and schools, but their resources,
except those in the English Reading Room, are
available to all students and faculty members of the
University.

The Biomedical Library, in the Center for the Health
Sciences, has collections in all of the health and life
sciences. Materials for engineering, astronomy,
meteorology, and mathematics are kept in the En-
gineering and Natural Sciences Library. Educa-
tion, kinesiology, and psychology are the principal
subjects served by the Education and Psychology Li-

brary, which also has collections in the field of
Teaching English as a Second Language. The Man-
agement Library serves the Graduate School of
Management and the myriad subject fields relating to
business and management. The following libraries
serve the indicated fields: Architecture and Urban
Planning, Art, Chemistry, Geography-Geophysics, Law,
Maps, Music, Oriental Languages, Physics, Theater
Arts, and the University Elementary School.

The Library Photographic Service, in the Powell Li-

brary Building, offers complete documentary
photographic service, where photocasts, micro-

negative work is done.

Supplementing the University Library is the
William Andrews Clark Memorial Library of about
75,000 books, pamphlets, and manuscripts, featur-
ing English culture of the seventeenth, eighteenth,
and nineteenth centuries, and the history of
The Clark Library sponsors an annual program of sum-
mer postdoctoral fellowships. The areas of study
are based on the particular strengths of the Li-

brary's holdings. Each year a Clark Library Fellow-
ship is granted to a UCLA graduate student work-
ing toward a doctorate within one of the Library's
fields of interest, and each semester an eminent
scholar is brought to the Library as its Senior
Research Fellow. A distinguished scholar is
appointed each year to the Clark Library Professor-
ship. This Library is not on the University campus,
but is situated at 2520 Cimarron Street, at West
Adams Boulevard.

The Clark Library is open Monday through Friday
from 9 a.m. to 4:45 p.m. Leaflets describing the
Clark Library are available at the Reference Desk in
the Research Library, and information on Univer-
sity transportation to the Clark Library may also be
obtained here.

Computer Reference Services are offered in a par-
tial cost-recovery basis by reference librarians in the
Research Library Reference Department, the
Psychic Library, the Biomedical Library, the Engi-

neering and Mathematical Sciences Library,
the Physics Library, the Chemistry Library, and
the Geology Library. The services are
based on computerized searching of a number of
important abstracting and indexing publications,
primarily covering subjects in the fields of
the social, life, health, and physical sciences, tech-
nology, and education. Descriptions and price lists
are available at reference desks throughout the Li-

brary system.
The resources and services of all the campus libraries are available to all students, faculty, and staff of the University. A Library handbook, describing the organization and services of the University libraries, is available. List their schedules of hours, may be obtained in any of the-campus libraries.

Research Facilities, Museums, Other Resources

Recognizing the value of an interdisciplinary approach to the search for knowledge, the University maintains Regentally designated organized research units and programs located outside the usual departmental structure. An organized research unit consists of an interdepartmental group of faculty and students engaged in research with the research, teaching, and may enhance the teaching of participating members of the faculty, but they do not offer regular academic curricula or confer degrees. They may provide research training to graduate students employed in research programs, and sometimes outside the usual departmental structure. These units, along with more specialized activities in focal fields, provide significant support to the educational program and enhance the overall academic quality of the institution.

Universitywide

The Institute of Geophysics and Planetary Physics is engaged in interdisciplinary programs related to studies of the interior of the earth, moon, and other planets, the fluid and gaseous parts of the planets, and interplanetary space. Major research programs being actively explored in the laboratories of the Institute include investigations into the origin of the magnetic field; the configuration of the earth's magnetic field in space; the earth-sun interaction; structure and properties of the lunar surface and interior; meteorites; origin of the earth's magnetic field; the history of the solar system; astrophysical plasmas; high-energy astrophysics; ocean-atmosphere interactions; seismology; earthquake control and prediction; internal structure of the earth; earth tides; continental drift and plate tectonics; properties of materials under high pressures and temperatures; the carbon cycle in the atmosphere; archaeology; geochronology; glaciology; petrology and metamorphism; isotopes; geochronology; origins of life; man's interaction with the environment. The laboratory facilities of the Institute and its faculty are available to guide the dissertation research of students in the physical sciences, including the Departments of Earth and Space Sciences, Physics, Chemistry, Mathematics, Atmospheric Sciences, Astronomy, Engineering, and Anthropology.

The Molecular Biology Institute was established to conduct research in the fields of biomolecular and cellular science, environmental biology, and nuclear medicine. It is funded primarily by the Department of Energy (DOE), which lies at the interface of health science and engineering. The Institute for Medical Engineering, Medicine, Dentistry and Public Health, and will anticipate a growing involvement with other departments and schools. The Institute will receive support from a number of sources, including the University, a large private endowment, Federal and State agencies, foundations and gifts. Coordinator for the Institute until the Director is appointed: Frederick G. Allen, 7714 Boettler Hall, School of Engineering and Applied Science.

Research Units

The American Indian Studies Center acts as an educational catalyst in a variety of ways. It encourages new programs of study, promotes faculty development and systematic research, and develops library collections particularly related to American Indian Studies. In addition, the Center is involved with the cultural activities of the Indian community and sponsors symposia, conferences, and workshops relevant to the American Indian development. The Director is sponsored jointly by the Continuing Education Division of the University and the Indian Development Program. Kenneth Morrison, Acting Director.

The Center for Afro-American Studies seeks to provide a deeper understanding of a particular area of study by the development of related human and material resources. It organizes new programs of study with particular emphasis on correlation structure and function. These include the study of structural and function of macromolecules, molecular genetics, and virology; biocatalysis and control; molecular basis of cellular architecture, development, evolution, neurobiology and oncology. Staff members from departments in biological, physical and medical sciences participate in the Institute programs, and the Institute aids departments in graduate training and postdoctoral programs in the general area of molecular biology.

The Institute for Medical Engineering was activated by the Regents in 1976, providing a physical and intellectual multi-disciplinary environment for faculty and students to conduct research on important medical problems and relevance to the interface of health science and engineering. It will seek to be the University's focal level of the most creative engineering and medical techniques to problems of direct medical significance. As an interdisciplinary organization, it will include faculty and students from Dentistry, Engineering, Medicine, and Public Health, and will anticipate a growing involvement with other departments and schools. The Institute will receive support from a number of sources, including the University, a large private endowment, Federal and State agencies, foundations and gifts. Coordinator for the Institute until the Director is appointed: Frederick G. Allen, 7714 Boettler Hall, School of Engineering and Applied Science.

Research Units

The Molecular Biology Institute was established to serve various interested departments of the biological, medical, and physical sciences in the coordination, support, and enhancement of research and training in molecular biology. Interests and activities of the Institute are intended toward the objective of which aim to explain biology at a molecular level, with particular emphasis on correlation structure and function. These include the study of structure and function of macromolecules, molecular genetics, and virology; biocatalysis and control; molecular basis of cellular architecture, development, evolution, neurobiology and oncology. Staff members from departments in biological, physical and medical sciences participate in the Institute programs, and the Institute aids departments in graduate training and postdoctoral programs in the general area of molecular biology.

Most of the Institute staff are housed in the Molecular Biology Institute building completed in 1976. Adjacent to one another with the Department of Chemistry, the Institute is devoted to the Parvin Cancer Research Laboratories. The Institute is located adjacent to the Chemistry, Biology and Bacteriology Departments and close to the Science Center. The Director is Paul D. Boyer.

The laboratory of Nuclear Medicine and Radiation Biology conducts research in the fields of molecular and cellular science, environmental biology, and nuclear medicine. It is funded through a cooperative agreement with the Department of Energy (DOE) and the United States Atomic Energy Commission (ERDA and AEC). Most of the program is conducted in Warren Hall, located on the West Medical Campus.

William H. Hildemend, Director

The Dental Research Institute, located mainly on the 7th floor of the School of Dentistry, involves faculty, graduate and undergraduate students in original research in six program areas as follows: (1) Immunology/Immunogenetics; (2) Periodontal/Ocular Health; (3) Urology and Urologic Research; (4) Oral and Maxillofacial Biology; and (5) Restorative and Clinical Sciences. M.S. and Ph.D. students are sponsored by individual Institute faculty members. An informational brochure outlining current studies of Institute members is available from the Office of the Director (CHS 43-180, Ext. 55478).
Letters and Science

The African Studies Center provides a framework for furthering teaching and research on Africa involving social sciences, education, linguistics, humanities, fine arts, law, the health sciences and the natural sciences. The Center participates in an interdisciplinary master's degree program in African Area Studies and in an undergraduate program in conjunction with degrees in the social sciences or African languages. The Center has also been involved in special programs which entail the dissemination of knowledge about Africa to the larger community. Through its Research Committee, the Center makes grants to assist UCLA faculty members and students with research and to participate in administering the NDEA Title VI fellowship awards for the study of African languages, and offers a limited number of supplementary grants-in-aid to students both in master's and doctoral programs whose focal point is Africa. The Center provides information to faculty and students on extramural sources of research support and employment opportunities which require knowledge of Africa. It also brings Africans to the University for lectures or as Visiting Professors or Research Associates, and sponsors interdisciplinary colloquia focused on integrative and innovative themes. Other Center activities include the publication of quarterly journals, African Arts, UFAHAMU, a student journal, Studies in African Linguistics, and The Journal of African Studies, African Law Studies, The African Studies Center Newsletter. New York is a forum for Africanists, as well as an avenue for occasional papers and books based on the interdisciplinary colloquia. The Center also provides facilities for a student organization, the African Activist Association, which is active in sponsoring events that focus public attention on important aspects of African culture or politics.

Michael F. Lofchie, Director

The Institute for Social Science Research (ISSR) is an organized research unit that serves the social research community. Several times a year, SRC undertakes studies of Los Angeles County residents that provide research information to a number of different investigators. These multi-purpose surveys allow researchers to economically obtain data-sets on large representative samples of Los Angeles County citizens.

The current research program includes studies in medical care, mental health, human development, law, demography, economic resources, gerontology, energy and economic behavior.

Howard E. Freeman, Director

Management

The Western Management Science Institute fosters and advances study in management science and operations research, with special emphasis on developments needed for more effective practical applications. The Institute conducts mathematical and computer-oriented studies on a variety of subjects. These include the construction of optimization models for production and distribution systems, finance and marketing policies, conservation of natural resources, and resource allocation in organizations. Methods of decision-analysis, mathematical programming, and simulation are being developed and applied. The basic economics of decision and information systems are also being studied.

In addition to its research programs, the Institute is engaged in developing faculty resources and graduate curricula in the management sciences, and in sponsoring workshops and seminars such as the Jacob Marshak Interdisciplinary Colloquium on Mathematics in the Behavioral Sciences. Although composed largely of faculty members of the Department of Management, the Institute staff is interdisciplinary. Frutill collaborative relationships have occurred with the departments of Economics, Engineering, Mathematics, Political Science, and Psychology.

J.C. LaForce, Acting Director

Medicine

The Brain Research Institute provides an environment for research in the neurological and behavioral sciences for investigators particularly interested in the behavioral, health and life sciences fields but also from the physical sciences and engineering. Three principal goals of the Institute are: (1) to support and conduct research which contributes to the understanding of brain mechanisms and behavior; (2) to contribute to the training of pre-doctoral and postdoctoral students for professional careers in brain science; (3) to develop and disseminate information about brain function in the professional and lay communities. Located in the Center for the Health Sciences, the Institute conducts programs which are largely interdisciplinary. General activities include attendances, conferences, in the broad fields of neurophysiology, neurochemistry, neuroanatomy, neuropharmacology, neuroendocrinology, neuropathology, biophysics, and communications, neuroimmunology, behavior and neuropathology.

The Jules Stein Eye Institute is a comprehensive facility located within the Center for the Health Sciences, devoted to research in the sciences related to vision, the care of patients with eye disease and the dissemination of knowledge in the broad field of
of ophthalmology. Incorporated in this structure are outpatient, inpatient, and operating room facilities for the care of patients with ophthalmic disorders; areas for research in the sciences related to vision; and facilities for scientific reading, lectures and seminars. The Institute affords a unique opportunity for students in the Schools of Medicine, residents and graduate physicians. A close relationship with graduate and undergraduate research and teaching facilities at UCLA is maintained.

The Mental Retardation Research Center provides laboratories and clinical facilities for basic and applied research and research training in mental retardation and related aspects of human development. Its interdisciplinary activities range from molecular biology, cellular biology and psychology. The Center is closely allied with a Professional Education and Clinical Services Facility, which promulgates interdisciplinary training in the evaluation and treatment of mentally retarded and otherwise disturbed children and their families. Together, these two units comprise a total program directed toward a Major public health program.

Nathaniel A. Buchwald, Director

Museums, Galleries, Special Facilities

The Frederick S. Wight Art Gallery, formerly the Wight Art Center, was named for the late B. R. Straatsma, Director of the Fine Arts Department. The permanent holdings include the Franklin D. Murphy Sculpture Garden, 69 sculptures from the 20th century including Arp, Calder, Calder, Lachaise, Lipchitz, Moore, Noguchi, Rodin and Stella. The Wight Art Gallery has approximately 50 paintings of the Italian, Spanish, Dutch, Flemish and English schools, from the 15th to 19th centuries, 20th century painting, sculpture and photographic collections.

Twelve exhibitions of painting and sculpture, prints and drawings, and design are given in the Wight Art Gallery each year. These exhibitions presented annually in close conjunction with the UCLA Museum of Cultural History and the Grunwald Center for the Graphic Arts. One of these exhibitions is regularly sponsored by the UCLA Art Council, the supporting organization of the Gallery.

Jack B. Carter, Acting Director

The Grunwald Center for the Graphic Arts which houses a distinguished collection of prints and drawings, is maintained as a study and research center for the benefit of UCLA students, scholars and collectors, as well as the general public. The permanent holdings of the Center include significant examples from the 15th century to the present which were originally selected to complement courses given in the history and continuity of the graphic arts. It is particularly noted for its collection of German Expressionist prints formed by Fred Grunwald, as for specialized collections in 19th- and 20th-century lithography (including the Tamarind archive), the history of ornament, Japanese prints (including the Frank Lloyd Wright collection), and comprehensive holdings of Matisse, Picasso and Rouault. Several major exhibitions are organized each year accompanied by the publication of a scholarly catalogue.

E. Maurice Bloch, Director

The Museum of Cultural History (formerly The Museum and Laboratories of Ethnic Arts and Technology) collects, preserves, and interprets collections of objects which represent a wide range of the material culture, and specifically of the arts, of peoples who have lived until recently at, or beyond, the margins of the major Oriental and Occidental civilizations. These collections are derived from the field research of Africa, Melanesia, the Americas, the Ancient Near East, the circum-Mediterranean cultures, the European, Neolithic and Bronze ages, and the folk arts of Latin America, Europe, and the Orient.

The Museum promotes the study of arts and artifacts as one of the most important avenues toward an understanding of man’s cultures. As a resource for UCLA faculty, students, visiting scholars, and the general public, the Museum offers assistance with instruction, research field work, exhibitions, and seminars, and sponsors exhibitions, lecture programs, symposia and publications.

In the community, the Museum directs a satellite museum program which organizes and mounts exhibitions that are located throughout greater Los Angeles, particularly in culturally disadvantaged areas, and a pre-history program which is designed to make children familiar with museum objects in a classroom setting. Trained volunteers teach classes in prehistoric archaelogogy in the Los Angeles City School System.

The Museum has an 1,800 square foot multi-purpose facility which is used primarily for exhibitions directly related to teaching and research, a focus for classes, seminars, and lectures. Designed as a home for teaching and community activities, the Gallery will greatly enhance the effectiveness of existing programs and give impetus to further development. The exhibitions highlight various aspects of the Museum’s collections.

Christopher B. Donnan, Director

The 8-acre Mildred E. Mathias Botanical Garden contains a useful teaching and research collection of about 4,000 species of plants of the world. Included are a native section, desert garden, lath- house, and experimental greenhouse. Alpinum is the Plant Physiology Building, with glass houses and growth chambers. The Herbarium contains a teaching and research collection of about 250,000 specimens representative of the flora of the world, with special attention to the American Southwest. This facility is of major national importance to the botanical research community, the collections of the Los Angeles County Museum being the largest of its kind in Southern California.

Jonathan Sauer, Director

The Office of Academic Computing (OAC) is responsible for all general-purpose computing activities on the UCLA campus. In support of institutional and departmental needs, OAC provides a broad range of computing services to the UCLA academic community and, through a nationwide computer network, to institutions throughout the United States. Computing resources include an IBM System/360 Model 917 computer. The 360/91 is available to all departments and schools within UCLA, and timesharing terminals and remote-job-entry stations are located throughout the campus.

Both interactive and batch methods are available for performing work on the 360/91. Interactive terminal-oriented systems available are APL "PLUS" (STSC’s version of A Programming Language), TSO (TSO’s version of the IBM’s System/360), and interactive FORTRAN (including the IBM’s FORTRAN). The 360/91 supports standard OS/360 batch services as well as a fast, student-oriented batch service (QUICKRUN). Turnaround for jobs run on the 360/91 typically ranges from under a minute for student jobs to under an hour for jobs requiring extensive setup operations.

OAC also maintains a DEC (Digital Equipment Corporation) PDP-OKA computer, principally for student use. Any member of the UCLA student body or faculty can individually establish an account for computing that uses APL, FORTRAN, or COBOL on the DEC system. Equipment provided to OAC users is special equipment for graphics work: two plotters ('a CalComp 936 Drum Plotter and a Versatec 1200A Electrostatic Plotter) and several Tektronix graphics display devices (models 4081, 4051, and 4013).

Computing activities are supported by an extensive library of application programs, consulting services, and reference documentation. The applications program library for the 360/91 includes a wide range of computing assistance and a variety of technical software. Several FORTRAN and COBOL compilers, as well as other esoteric computer languages, are also supported on the 360/91. W. B. Kehl, Director

The Division of Laboratory Animal Medicine is the centralized animal resource facility responsible for the procurement, husbandry and general care of animals required for teaching and investigative services. The Division’s veterinary and support staff administers the veterinary medical and husbandry programs throughout the campus. The Division’s veterinary programs and physical facilities have been approved for full accreditation by the American Association for Accreditation of Laboratory Animal Care.

Jessie O. Washington, D.V.M., Director

The University of California Natural Land and Water Conservation Foundation seeks to develop and preserve land, water, and wildlife reserves to be used for field studies in unspoiled natural sites and for protected scientific experiments. Graduate students at UCLA regularly use several of these field stations and dissertation research, including the 14,000-acre Boyd Deep Canyon Desert Research Center and the 56,000-acre Santa Cruz Island Reserve, both of which have field stations. A complex of three Santa Monica Mountain Reserves administered by UCLA has no housing facilities but is close enough to the campus for easy daily access.

Jonathan Sauer, Campus Representative

Zoological collections of the Department of Biology include a research collection of marine fishes, primarily from the eastern Pacific and the Gulf of California, and the Dickey Collection of birds and mammals, primarily from the western United States, western Mexico and Central America. The Department also maintains a more limited collection of amphibians, reptiles and fossil vertebrates. Through a cooperative arrangement, the large zoological collections of the Los Angeles County Museum, containing both fossil and recent specimens, are available for research by qualified students.

The department also maintains an extensive collection of algae, and a smaller collection of fungi and bacteria (including photosynthetic bacteria). These collections, which are part of the culture facility, are available for both teaching and research.

UCCLA is a member of the Organization for Tropical Studies, a consortium created to promote research and educational programs in the New World tropics. Fellowships are available for subsistence in field-oriented programs in Central America.

A Note About Resources

Academics form the focus of endeavor for the UCLA community, but other resources-health care, psychological counseling, learning skills, veteran’s affairs, and so on—also come into play in the course of any experience here. These additional resources are listed in the "student services" sections of this book.

Finally, you may have noticed that nearly all of the academic resources discussed in this section carry room number and/or telephone number information. The reason for that is at once simple and powerful. If you want help, it’s there in a variety of useful programs ... but it’s up to you to seek it out.

money at UCLA

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In this section, you will find a detailed discussion of various fees and other financial obligations—as well as some of the ways to meet them.

Finding out about Financial Aid is a worthwhile investment of your time. It is important because you don’t qualify. Or that you do. Either of those guesses can be costly. The Financial Aid Office publishes a guide, called "Passing the Bucks," giving more information about aid. You can get a copy from your high school counselor or from the Financial Aid Office, A129B Murphy Hall, University of California, 405 Hilgard Avenue, Los Angeles, California 90024. Telephone: (213) 825-3097.
General Fees

Here are the fees charged UCLA students.

Fees Assessed Undergraduates

As an undergraduate, you must pay a registration fee of $124 per quarter and a Student Union fee of $4, both payable when registering.

In addition, you are assessed on Education Fee of $100 per quarter and an Associated Students Fee of $6 per quarter.

Fees Assessed Graduate Students

Graduate students are required to pay a registration fee of $124.00 and a Student Union Fee of $4.00, both payable when registering.

In addition, you must pay an Education Fee of $120.00 per quarter and a Graduate Students Association Fee of $2.00 per quarter.

The Registration Fee covers certain expenses of students for counseling service, for athletic and gymnasium facilities, and for lockers* and washing for student registration and for such consultation, medical advice, and hospital care for any illness, stray that may occur on the campus by the Student Health Service, and for all laboratory and course fees. Membership in the Associated Students is covered by the Associated Students Student fees. No part of these fees is remitted to those students who may not desire to use any or all of these privileges. If you withdraw from the University within the first five weeks of the quarter, a part of these fees will be refunded. Any refund for a withdrawal will be based on the date the completed notice for withdrawal is actually submitted. No claim for refund will be considered unless completed within the fiscal year to which the claim is applicable.

*Lockers are issued, as long as they are available, to registered students who have purchased standard lockers. Locks are sold for $1.25 each, and may be used as desired or may be transferred by the purchaser to another student.

The Filing Fee for Graduate Students

The University has established regulations governing the use of the $62.00 Filing Fee (one half of the Registration Fee) which can be paid in lieu of the ordinary charges for the Registration Fee ($124.00) and Education Fee ($120.00) and the Nonresident Tuition Fee of $800.00, when applicable, when a student files a dissertation or thesis or takes the doctoral final oral examination or the final comprehensive examination for the master's degree.

Administration of the Filing Fee. Under certain circumstances, a candidate for the master's or doctoral degree need not be a registered student at the time the last of the requirements for the degree are completed. Instead of registering and paying the University Registration and Educational Fees (and the candidate Tuition Fee, if applicable), the candidate pays the Filing Fee. The circumstances under which this is the appropriate procedure are as follows:

Eligibility for the Filing Fee. Prior to the beginning of the quarter in which requirements for the degree are fulfilled, a graduate candidate shall have fulfilled all of the requirements for the degree except for the filing of the dissertation or thesis and/or taking of a final oral examination or master's comprehensive examination. To use the Filing Fee for a doctoral degree you must have been advanced to candidacy and completed all research; only the final reading of the dissertation and (if required) the defense of the dissertation may remain.

To establish eligibility to pay the Filing Fee, you submit a Filing Fee application approved by the Graduate Adviser and the Chairperson of the Thesis Committee. If the Committee certifies that all other requirements have been met, forms for this purpose are available in the Student and Academic Affairs Section of the Graduate Division.

Privileges Not Covered by the Filing Fee. A student who pays the Filing Fee is not eligible for the privileges normally accorded regularly registered students, such as the use of University facilities, other than the attention of the faculty necessary for the final reading of the dissertation or thesis or for the taking of a final oral final examination or master's comprehensive examination. Students may not use this fee for the purpose of taking course work of any kind. Students whose status as fellowship holders, as aliens with particular visas, or others whose status depends on maintenance of a particular course load cannot use the Filing Fee to enroll in the requisite number of courses, but must obtain whatever other certification of activity is needed from the Dean of the Graduate Division.

Registration After Paying the Filing Fee. If, after paying the Filing Fee in any one quarter, a candidate should decide that the formal final examination or master's comprehensive examination is not required, he/she should request a written statement from the student and Academic Affairs Section of the Graduate Division, during the appropriate academic quarter.

About California Residence—Non-Resident Fees

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 of $800 for the quarter or $1200 for the semester. The residence determination date is the day instruction begins at the last of the University fall, spring, and summer semesters; the quarter for the quarter, and for schools on the semester system, the day instruction begins for the semester.

Definition

In order to be classified as a resident for tuition purposes, a student must have established his/her residence in California for more than one year immediately preceding the residence determination date for the term during which he/she proposes to attend the University and relinquished any prior permanent residence outside the state or a legal permanent resident status with the University prior to the beginning of the quarter in which instruction begins. California residence for more than one year immediately prior to the residence determination date does not constitute the establishment of California residence under state law regardless of the length of his/her stay in California.

Relevant indicia which can be relied upon to demonstrate one's intent to make California his/her permanent residence include, but are not limited to, the following: registering and voting in California elections; designating California as his/her permanent address on all school and employment records; residing in California for military service; obtaining a California driver's license or California Identification Card, if a non-driver; obtaining California vehicle registration; paying, California income taxes as a resident, including in some extended outside state; establishing an abode where one's permanent belongings are kept within California; licensing for professional practice in California; and the absence of these indicia in other states during any period for which residence in California is asserted. Documentary evidence may be required. No single factor is controlling or decisive. All relevant indicia will be considered in the classification determination.

The student must petition to have his or her residence classification reviewed if it is non-Resident Tuition Waivers. The student must file his residency determination at the campus attended, and documentation of residence (driver's license, voter registration receipt, etc.) may be requested at that time. All changes of status to resident or non-resident must be presented to the late registration period for the quarter or semester for which the student intends to be reclassified.

Waivers of Non-Resident Tuition

To the extent funds are available, non-resident tuition waivers may be granted to spouses and dependents of University employees, graduate students who are University faculty members who are qualified for membership in the Academic Senate, to the unmarried, dependent children under age 21 of a full-time University employee whose permanent assignment is outside California and who has been employed by the University for more than one year immediately prior to the opening of the term; and for certain foreign students. Inquiries regarding these waivers normally should be directed to the Residence Deputy in the Registrar's Office.

In addition, certain student Teaching Assistants and Teaching Fellows, and certain graduate students designated as University Fellows and Distinguished Scholars may be eligible for Non-Resident Tuition Waivers. For Waivers and for additional information, students should contact the Graduate Division at their campus for further information.

The residence of the parent with whom an unmarried minor (under age 18) child maintains his or her place of abode is the residence of the unmarried minor child. When the minor lives with neither parent his or her residence is that of the parent with whom he or she maintains his or her place of abode. The minor may establish his or her residence which is in the favor of a parent if the parent whose right of control.

A man or woman establishes her or his residence. A woman's residence shall not be derivative from that of her husband, or vice versa.

Exceptions

1. A student who is an adult is entitled to resident classification if the student has lawfully been admitted to the United States for permanent residence and has become a citizen of the United States, or has in every respect complied with all applicable provisions of the laws of the United States and has thereafter established and maintained residence in California for more than one year immediately prior to the residence determination date.
A student who is an adult alien shall be entitled to resident classification if he or she is a refugee who has been granted parole, conditional entrant or indefinite voluntary departure status in accordance with all applicable laws of the United States; provided that he has lived in the state for one year immediately prior to the residence determination date. (Effective until June 30, 1980.)

2. A student who is a minor alien shall be entitled to resident classification if the student and the parent from whom residence is derived have been lawfully admitted to the United States for permanent residence, provided that the parent has had residence in California for more than one year after acquiring a permanent resident visa prior to the residence determination date for the term.

A student who is a minor alien shall be entitled to resident classification if he or she is a refugee who has been granted parolee, conditional entrant or resident classification if he or she is a refugee who has been granted parolee, conditional entrant or indefinite voluntary departure status in accordance with all applicable laws of the United States, provided that he has lived in this state for one year immediately prior to the residence determination date. (Effective until June 30, 1980.)

3. A student who remains in this state after his or her parent or guardian, as theretofore domiciled in California for at least one year prior to leaving and has, during the student's minority and within one year immediately prior to the residence determination date, established residence elsewhere, shall be entitled to resident classification until the student has attained the age of majority and has resided under 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. Nonresident students who are minors or 18 years of age or older who, while they have been totally self-supporting through employment and actually present within California for the entire year immediately prior to the residence determination date, and have evidenced the intent to make California their permanent home may be eligible for resident status.

5. A student shall be entitled to resident classification if immediately prior to the residence determination date he or she has lived with and has 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.

6. Exemption from payment of the nonresident tuition fee is available to the natural or adopted child, stepchild or spouse who is a dependent of a member of the United States military stationed in California on active duty. Such resident classification must be established until the student has resided in California the minimum time necessary to become a resident. If a student is enrolled in an institution and the member of the military is transferred by military orders to a place outside the United States immediately after having been on active duty in California, the student is entitled to retain resident classification under conditions set forth above.

7. 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, shall be entitled to resident classification until the student has resided in California the minimum time necessary to become a student.

8. Children of deceased public law enforcement or fire suppression employees, who were California residents and who were killed in the course of law enforcement or fire suppression duties, may be entitled to resident status.

Other Requirements

New and returning students are required to complete a Statement of Legal Residence. The student's status is determined by the Residence Deputy who is located in the Registrar's Office.

You are cautioned that this summation is not a complete explanation of the law regarding residence. You should also note that changes may have been made in the rate of nonresident tuition and the residence requirements between the time this catalog statement is published and the relevant residence determination date. Regulations have been adopted by the Regents, a copy of which is available for inspection in the Registrar's Office of the campus.

All students classified incorrectly as residents are subject to reclassification and to payment of all nonresident fees not paid. If incorrect classification results from false or concealed facts by the student, the student also is subject to University discipline. Resident students who become nonresidents must immediately notify the Residence Deputy.

Appeals

Any student, following a final decision on residence classification by the Residence Deputy, may make written appeal to the Attorney in Residence Matters at the above address within 120 days after notification of the final decision by the Residence Deputy.

For More Information

If you have a question about your status as a California resident in connection with tuition, write to the Attorney in Residence Matters, 590 University Hall, 2200 University Avenue, Berkeley, California 94720. Please keep in mind that it is University policy that no other University personnel are authorized to give you information on the definitions of California residence.

Waivers of Non-Resident Tuition

To the extent funds are available, non-resident tuition waivers may be granted to spouses and dependents, unmarried children under age 21 of University faculty members who are qualified for membership in the Academic Senate; to the unmarried dependent children under age 21 of a full-time University employee whose permanent assignment is outside California and who has been employed by the University for more than one year immediately prior to the residence determination date; and for certain foreign students. Inquiries regarding these waivers normally should be directed to the Residence Deputy in the Registrar's Office of the campus the student proposes to attend.

In addition, certain student Teaching Assistants and Teaching Fellows, and certain graduate students designated as University Fellows and Distinguished Scholars may be eligible for Nonresident Tuition Waivers or fellowships. Such students should contact the Graduate Division at their campus for further information.

Fees for Reduced Programs

If you meet the standards described here, you may be eligible for a fee reduction, as indicated. Fee assessment for the courses discussed below is based on the total units enrolled as of the 15th day of classes.

Non-Residents

If you are an undergraduate student with college/school approval for enrollment in less than 12 units, the non-resident tuition fee is $266.00 per course ($66.50 per unit). File a "Request for Fee Reduction" with academic dean's office for the applicable quarter. Refunds for courses dropped from the Official Study List are made according to the Schedule of Refunds discussed later in this section.

If you are a graduate student, the non-resident tuition fee is $800.00 ($1200 per semester) per quarter regardless of the number of courses undertaken. There is no reduction in Registration, Educational, Student Union, or Graduate Students Association Fees for less than full-time programs.

Residents

Certain qualified undergraduate students, when properly approved by the dean of their college/school for enrollment in less than 9 units, may be eligible for a $50 reduction in their Educational Fee. The "Request for Fee Reduction" must be filed by the tenth day of instruction. Except for those qualified and approved part-time students, there is no reduction in the Registration, Educational, Student Union or ASUCLA fees.

Other Fees

Following is a list of what might be called "Miscellaneous Fees" charged undergraduate and graduate students at UCLA:

Application fee, $20. This nonrefundable fee is charged every undergraduate applicant for admission, readmission, or intercampus transfer to the University and every graduate applicant for admission, leave of absence, and readmission to the University.

Acceptance of admission fee, $50. For undergraduates only. The fee is non-refundable, but is applied toward the University Registration Fee.

Returned check collection, $5.

Late registration, $25. When permitted.

Duplicate registration and/or other cards in registration packet, $3 each order.

Change in Official Study List after the tenth day of instruction, $3 each petition, when dropping, changing grade basis, or adding a course within published period.

Late filing of study list (Study List Card), $10, when permitted.

Removal of grade "E" or "I", $5 each petition.

Late filing of Degree Candidate Card for the bachelor's degree, $3.

Late payment of fees, $10 (after a published deadline).

Candidacy for Ph.D., Ed.D., or Dr.Ph.H., $25.

Credit by Examination, $5 per petition.

Duplicate diploma, $23.50. Replacement cost upon presentation of evidence original is lost or destroyed.

Transcript of Record, $2 for the first copy and $1 for each additional copy ordered at the same time.

Late application for teaching assignment, $1.

Late return of athletic supplies, **$1** for each 24 hours until full purchase price of article is reached.

Supplies or equipment not returned before the close of the fiscal year must be paid for in full; return after that date is not permitted.

Failure to empty locker within specified period, $5.

**Third Party" Fee Payment**

The University assumes no contractual or other obligation to any third party who pays any University fees on behalf of a student, unless the University has expressly agreed thereto in writing. In this regard, no request for a refund of fees by such third party will be honored, and if the student withdraws from the University with a fee refund due, such refund will be paid to the student.
Refunds
† The Schedule of Refunds listed below refers to Calendar days, beginning with the first day of instruction (Day 1). Percentages listed (days 1-35) should be applied respectively to each Tuition, Educational Fee, University Registration Fee, and other student fees. The effective date for determining a refund is the date you file your official notice of withdrawal with the University, and it is presumed that no University services will be provided to you after that date.

No claim for refund will be considered unless presented within the fiscal year to which the claim is applicable.

New Undergraduate Students
Prior to Day 1. Registration Fee you have paid is refunded except for the $50 Acceptance of Admission Fee, and other fees paid are refunded in full.

Day 1 and after. The $50 Acceptance of Admission Fee is withheld from the Registration Fee, and the Schedule of Refunds (see below) is applied to the balance of fees assessed.

All Continuing and Readmitted Students and New Graduate Students (Except Medical and Dentistry)
There is a service charge of $10 for cancellation of registration before the first day of instruction. Beginning with the first day of instruction the Schedule of Refunds (see below) is applied to the total of fees assessed.

Medical and Dentistry Students
Prior to the first day of instruction, the fees you have paid are refunded in full, except for the Deposit.

Day 1 and after the Deposit is withheld from the fees assessed and the Schedule of Refunds (see below) is applied to the balance of the fees assessed.

In the case of continuing students, the Schedule of Refunds is applied to the total of the fees assessed.

Schedule of Refunds
This schedule applies to the procedures described above.

1 1-14 15-21 22-28 29-35 36 days days days days days and
80% 60% 40% 20% 0%

If no credit for courses is received, a full refund of the Registration Fee of the regular session will be granted to all students entering the armed forces prior to the sixth week of the quarter. No refund thereafter.

Estimated Budgets
The estimated budget presented here was put together based on expense diaries maintained for us by students, the Consumer Price Index, and surveys of local costs for books, rent, transportation, food, clothing—all that is a legitimate part of your school related expenses. It is designed to serve as a guide only. The figures in both the “undergraduate” and “graduate” columns are, for the most part moderate. Please note that financial aid awards are based on need which is defined as the difference between allowable school-related expenses (budget) and the contribution expected from the family. Budgets vary depending on circumstances.

The budget below is geared to a single student living in a shared room in a UCLA Residence Hall.

### UCLA Budget

<table>
<thead>
<tr>
<th>Category</th>
<th>Undergraduates</th>
<th>Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration Fee</td>
<td>$372.00</td>
<td>$372.00</td>
</tr>
<tr>
<td>Educational Fee</td>
<td>300.00</td>
<td>360.00</td>
</tr>
<tr>
<td>Student Union Fee</td>
<td>12.00</td>
<td>12.00</td>
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<tr>
<td>ASUCLA Membership Fee</td>
<td>18.00</td>
<td></td>
</tr>
<tr>
<td>Graduation Student’s Association Fee</td>
<td></td>
<td>6.00</td>
</tr>
<tr>
<td>Books and Supplies</td>
<td>252.00</td>
<td>252.00</td>
</tr>
<tr>
<td>Residence Hall Room and Board (19 meal plan)</td>
<td>1,645.00</td>
<td>1,645.00</td>
</tr>
<tr>
<td>Additional expense of holiday recesses and extra meals</td>
<td>398.00</td>
<td>398.00</td>
</tr>
<tr>
<td>Personal (clothing, cleaning, medical insurance, recreation, etc.)</td>
<td>768.00</td>
<td>768.00</td>
</tr>
<tr>
<td>Local Bus</td>
<td>108.00</td>
<td>108.00</td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Budget for California Resident</td>
<td>$3,873.00</td>
<td>$3,921.00</td>
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<tr>
<td>Nonresident Tuition</td>
<td>2,400.00</td>
<td>2,400.00</td>
</tr>
<tr>
<td>Total Budget for Nonresident of California</td>
<td>$6,273.00</td>
<td>$6,321.00</td>
</tr>
</tbody>
</table>

*You should estimate that living off campus will increase this budget by approximately $800.00. Alternatives to Residence Hall living are talked about in the “housing” section of this Catalog.*

Financial Aid Programs
An underlying principle in the determination of financial need is that parents have an obligation to finance the education of their children to the extent that they are able. The expected parental contribution is determined from the information supplied in the Student Aid Application for California (SAAC) for undergraduates and the Financial Aid Form (FAF) for graduates. UCLA uses a nationally approved non-profit system of need-analysis to determine what amounts parents are expected to contribute towards your education. If you are an independent student, your financial circumstances are analyzed rather than those of your parents.

A standard amount of ‘self-help’ is expected from all students, as a result of earnings, in addition to the parent’s contribution and any other resources students may have. Other resources may be savings, spouse’s earnings, benefits from other Federal or State agencies (social security, veterans’, welfare, etc.), graduate division assistance, and outside agency scholarships or grants. Self-help varies with the student’s year in school, family financial strength, and dependency status. The family contribution that is subtracted from school-related expenses to arrive at ‘need’ is the sum of the parents’ contribution, and the student’s resources and self-help expectation.

Student Financial Independence
The desire of students or parents to claim financial independence for the student does not necessarily release the parents from the responsibility of providing financial assistance to meet college expenses.

The Financial Aid Office is required to use two distinct definitions of independence to determine whether students are financially dependent on their parents.

California Definition
To qualify for State and University grant aid in 1980-81, the student must meet one of the following criteria:

1. Have been determined financially independent by an educational institution prior to June 30, 1977 or
2. Have not lived with either parent for six consecutive weeks or received more than $750 from parents in any of the last three tax years, 1977, 1978, 1979, or been claimed as an income tax deduction by anyone except self or spouse during that period or
3. Have been a ward of the court, or
4. Be an orphan, not claimed as a tax exemption this year except by self or spouse, or
5. Have been part of extremely adverse home situation, with documentation by responsible community personnel, and without family assistance for the last full year.

Federal Definition
To qualify for federally funded aid programs, including grants, in 1980-81 you:

1. May not be claimed as a tax deduction by parents for calendar years 1979, 1980, 1981, and
2. May not live with parents more than six consecutive weeks during calendar year 1979, 1980, 1981, and
3. May not receive more than $750 per year assistance from parents in 1979, 1980, 1981.

As an independent student, you must also demonstrate that you have been self-supporting during the calendar year prior to the academic year in which aid is accepted.

Undergraduate Aid Available from Agencies
Various financial aid programs administered or coordinated by the Financial Aid Office are outlined below. You may be eligible for several types of financial aid and a financial aid "package" is usually offered honoring your preference whenever possible. The forms of aid coordinated by UCLA but awarded by other agencies are: Basic Educational Opportunity Grant (BEOG), California Student Aid Commission Cal Grants A and B, Federal Insured Student Loan (FISL), State Guaranteed Student Loans, American Medical Association, Health Education Assistance and Robert Wood Johnson Loans.

Basic Educational Opportunity Grant
Undergraduate students who are U.S. citizens, permanent residents, or Vietnamese or Cambodian refugees are eligible to apply for the Federal Basic Educational Opportunity Grant. The award amounts for 1979-1980 range from $200 to $1,800. If you apply for UCLA ‘need based’ financial aid, the Student Aid Application for California (SAAC) also serves as your BEOG application. The University of California requires that all eligible undergraduates apply the BEOG.

California Student Aid Commission Cal Grants A and B
Undergraduate California residents who have not completed more than six semesters or nine quarters of college work as of Summer, 1980, are eligible to apply for a Cal Grant award. The Student Aid Application for California and Cal Grant Supplements are the official applications for these programs. You can get them from the UCLA Financial Aid Office, room A-129, Murphy Hall (phone: 825-9097), high school counselors, or the California Student Aid Commission, 1410 F Street, Sacramento, CA 95814. The Student Aid Application for California and Supplements must be filed no later than February 1, 1980.

"Cal Grant A” awards range from $300 to $700 to be applied towards education and registration fees, and are based on need and academic achievement. They are renewable each year.
California Guaranteed Student Loan Program (CGSLP)

The California Guaranteed Student Loan Program (CGSLP) is being implemented for the first time during the 1979-80 academic year. The terms of this loan are similar to those of the FISL program above. The CGSLP application becomes available in the late summer of 1979. See a counselor in the Financial Aid Office, A129B Murphy Hall for further application information.

American Medical Association Loan (AMA)

Health Education Assistance Loan (HEAL)

Robert Wood Johnson Loan

The American Medical Association Loan (AMA), the Health Education Assistance Loan (HEAL) and the Robert Wood Johnson Loan are administered by commercial lending institutions. Each financial aid application requires a special application. The AMA loan is awarded to students in the School of Medicine. The HEAL is awarded to graduate students in the Health Professions Schools of Medicine, Dentistry, and Public Health who have not received a FISL/CGSL for the same academic year. The Robert Wood Johnson Loan is awarded to students in the School of Medicine and the School of Dentistry.

Aid Available from UCLA

Scholarships for Undergraduates

Scholarships are categorized as either NEED or NON-NEED (Honorary) based. A need based scholarship is awarded to outstanding students with financial need. A non-need based (Honorary) scholarship is awarded to students who have shown excellence in some area, whether it be academic, scholastic promise, or community service. The terms of the awards vary. Students are expected to maintain academic excellence in course work. Eligibility for a scholarship is determined by the University Committee on Undergraduate Student Support, Honors and Prizes. Although most scholarships are open to all undergraduate applicants on a competitive basis, some are restricted by the donors to students who meet prescribed criteria. Students will be considered for all scholarships for which they may be eligible. Awards are based on grade-point average and financial need. (See instructions included in the scholarship packet for details.) Read the instructions included with your award.

Regents' Scholarships

Unlike other University scholarships, Regents' Scholarships are awarded for four years to students entering from high school and for two years to continuing students and those transferring from another university or college who will have completed their sophomore year by the end of spring quarter. Students who have achieved an outstanding academic record and show a high degree of promise are eligible to apply for Regents' Scholarships. Financial need is not a criterion for this award, but students who wish to be considered for this stipend must file financial information each year. Regents' Scholarships are non-renewable and no financial information is required.

Supplemental Educational Opportunity Grants

These awards are Federally funded and are granted only to undergraduate students with exceptional financial need. Grants range from $200 to $1,500 per academic year, but cannot exceed more than half the total assistance awarded and must be matched dollar for dollar with other aid.

Work Study Programs

Work-study is a need based "award that allows a student to work a maximum of 20 hours a week while attending school, or 40 hours a week during vacation periods. An academic year's award may be from $500 to $2,000. Gross earnings may not exceed the amount awarded. You can obtain more information from the Financial Aid Office, A129B Murphy Hall.

College Work Study (Federal)

A portion of the student's hourly wage is provided by the federal government; the employer contributes the balance. Whenever possible, work is in the field of your educational objectives. Hourly pay rates comply with minimum wage and income tax laws and vary with the nature of the work and your experience and capabilities. Employment may be on or off campus. To be eligible you must be a citizen, refugee or permanent resident of the U.S.

President's Work Study

This program is administered in the same manner as the Federal program described above except that funding is provided by the Regents of the University and the employer. The student is limited to on-campus jobs. Citizens, refugees, permanent residents, and international students are eligible.

Education Fee Loan

Students who are residents of the State of California qualify for a deferment-loan of the Educational Fee.
Regents' and University Loans

These funds are provided by the Regents of the University and by private individuals and agencies for full-time graduate and undergraduate students. Eligible students may receive Regents' Loans up to $1,200 per academic year. University loans may be for larger amounts. Regardless of your age, you are required to obtain one co-signer for loans up to $1,000 and two co-signers for loans over $1,000. These loans are repayable in ten years in quarterly payments that begin nine months after the bor- rower terminates at least half-time enrollment. Interest is at the rate of 3 percent per annum, and the minimum quarterly payment is $90.

National Direct Student Loan

These loans are available to all students, undergraduates, graduate students, and who are carrying at least one-half the full-time academic workload. Undergraduate students may borrow up to $2,500 during their first two years. The aggregate sum for all undergraduate students may not exceed $5,000. Graduate or professional students may borrow up to $10,000, including all amounts borrowed as an undergraduate. Students under 18 years of age are required to obtain a co-signer. There is a six-month grace period after termination of at least half-time enrollment during which no interest accrues and no payment is due. Repayment begins twelve months after you cease at least half-time study. Minimum repayment is $90 per quarter, including interest at 3 percent per annum. The maximum repayment period is ten years. Loans made subsequent to June 30, 1972 include principal and interest. The student will be required to repay the principal and interest on the loans within 30-45 days depending on which day of the month the loans are issued. Applications are available in room A107, Murphy Hall, Student Loan Services Office.

Loan Exit Interview

All loan recipients are required to come into the Student Loan Services Office (Murphy A107) for a Loan Exit Interview before leaving UCLA whether due to graduation, withdrawal, or dismissal. The purpose of the Exit Interview is to help you understand your loan agreement and to explain to you both your rights and responsibilities under the program. Failure to participate in an Exit Interview with the Student Loan Services Office upon separation from the University will result in a hold on your academic records. You are urged to prevent problems by providing the Loan Services Office with updated and accurate information concerning your current status. Please call the Loan Services Office (Telephone 825-9864) for an appointment for an interview.

Student Loan Obligations

If you receive a loan offer as part of your financial aid package, you need not be a citizen, permanent resident, or refugee who is a graduate student either in the armed forces, the Peace Corps, or VISTA. Eligible students may receive Regents' Loans up to $1,200 per academic year. University loans may be for larger amounts regardless of your age, you are required to obtain a co-signer for loans up to $1,000 and two co-signers for loans over $1,000. These loans are repayable in ten years in quarterly payments that begin nine months after the borrower terminates at least half-time enrollment. Interest will not accrue and payments need not be made for a maximum of four years while you are serving in the armed forces, Peace Corps, or VISTA.

Emergency Loan

You need not be a financial aid recipient to apply for this loan. Registered students qualify. Small amounts may be borrowed for immediate financial emergency. The loan will be made to the student directly without the co-signer and is repayable within 30-45 days depending on which day of the month the loans are issued. Applications are available in room A107, Murphy Hall, Student Loan Services Office.

Graduate Aid Available

If you are a graduate student seeking support, consult the department in which you wish to study for information on fellowships, traineeships, or assistantships. You should also check with the Financial Aid Office. UCLA Graduate Support Resources, from the Financial Aid Office at 825-2851, 825-2852, or the UCLA Graduate Division, 1225 Murphy Hall, telephone 825-3521 or 825-4386, and consult that office for further information and assistance to applying for financial support.

The In-Candidacy Fee Offset Grant Program for Graduate Students in a Ph.D. Program

An In-Candidacy Fee Offset Grant Program has been established to provide an incentive for early advancement to candidacy and for completion of degree requirements with a normative time set by the department and subject to the approval of the Graduate Council. The grant covers the Educational Fee (presently $120 per quarter).

All students who begin graduate study in the University of California after September, 1978 will be eligible for the grant. If a student fails to register for any regular academic session, they are not eligible for the grant. The student is eligible for the grant for the first regular academic session after registration and the release of enrollment by the department and subject to the approval of the Graduate Council. The grant covers the Educational Fee (presently $120 per quarter).

Notice of expiration of eligibility will be conveyed to each student receiving the grant no later than the beginning of the final quarter of eligibility. All notices will be sent to the student's home address. No appeal to correct an alleged error in the determination of eligibility or of accrued time will be submitted by the student to the Graduate Dean promptly.

If a student fails to register for any regular academic session, in residence or in absentia (those students engaged in research outside the State of California through the Intercampus Exchange Program) and has not been granted a formal leave of absence, all credits as a graduate student and as a candidate for the Ph.D. degree will be lapsed. A student whose candidacy lapses may, after readmission, be required by the student to retake the written qualifying examinations and may also be required by the faculty of the student to retake the oral qualifying examinations. The student will be required to refile an Application for Candidacy and pay the Candidacy Fee.

At least one quarter of registration subsequent to advancement or reinstatement to candidacy will be required before the Ph.D. will be conferred upon a readmitted student. Thus, a student whose candidacy lapses may register for a minimum of two quarters before award of the degree to that quarter of registration to be re-advanced to candidacy and an additional quarter in which the degree may be awarded.

Should a student complete all of the requirements for the Ph.D., including the final examination and submission of the dissertation, prior to the beginning of classes in the academic session in which the degree is to be conferred, they need not register for that quarter pursuant to that: 1) the student's dissertation policy requires registration for that session; or 2) the continuous registration requirement has been met, and 3) the student was registered in the preceding regular academic session. For further information, please contact the department concerned or the Student and Academic Affairs Office, Graduate Division, 1225 Murphy Hall.
Fellowships and traineeships are available from University sources, from private endowments and foundations, and from programs of the federal government. They are usually awarded for academic years, but do not require specific duties. Departments appoint graduate students as Teaching Assistants for undergraduate courses, and both departments and organized research units appoint graduate students as Research Assistants. You should consult the department or the director of the research unit concerning requirements, and available assistantships as early as possible.

Extramurally administered fellowships, including those for study abroad, dissertation, faculty and postdoctoral study, require direct application to the specific awarding agency. The Fellowship and Assistantship Section maintains a library of reference materials and can assist students in locating information and applications.

Application Procedures for Financial Aid*

If you are a prospective undergraduate student, you will find descriptive material and instructions for filing for financial aid in the 1980-81 "Undergraduate Admissions and Financial Aid Packet." Continuing students may obtain the UCLA Undergraduate Scholarship and Financial Aid Packet at the Financial Aid Office, Valley Campus Center. Graduate students applying for UCLA "need based" financial aid are required to file a 1980-1981 Application for Graduate Financial Aid and a Financial Aid Form.

Continuing students from foreign countries may obtain a 1980-1981 Financial Aid Application for International Students from the Financial Aid Office of International Students and Scholars, 297 Dodd Hall. Los Angeles, CA 90024. No financial aid is awarded to foreign students in their first year of attendance at UCLA.

The 1980-81 deadline date for all financial aid applications for undergraduates, and continuing graduates is FEBRUARY 1, 1980. The deadline for entering graduates is September 1, 1980. These dates are vitally important to you because the Financial Aid Office will accept applications after the deadline date, but these applications will be classified as LATE. Late applications for financial aid will be considered ONLY after all complete on-time applications have been processed and ONLY if funds are still available.

* It is possible that for 1980-1981 there will be a national application for most forms of financial aid.

ROTC Financial Assistance

Funds for students in the Reserve Officers Training Corps are not administered by the Financial Aid Office; the subsistence allowances and scholarships available are briefly described below:

Air Force ROTC

Four-year scholarships are available to high school students, and two-year and three-year scholarships to college students. Scholarships include full tuition, books, and fees plus $100 a month. All cadets receive $100 per month during the last two years of the program and one-half the pay of a second lieutenant during the four-week summer training period or the pay of an airman basic during the six-week training period. Call 825-1742, or contact the Department of Aerospace Studies, 251 Dodd Hall, UCLA, 405 Hilgard Avenue, Los Angeles, California 90024 for full information.

Army ROTC

Cadets receive $100 per month subsistence allowance during the last two years of the ROTC program (Advanced Course). There are also four-year Army ROTC Scholarships, which provide financial assistance to outstanding students. (Full tuition, books and fees plus $100 per month for the four years.) During six-week summer training period at the end of the junior year cadets receive one-half the pay of a second lieutenant. Also available are 3-year, 2-year, and 1-year scholarships for students enrolled in Army ROTC. Call 825-7381, or write the Department of Military Sciences, Men's Gym, Room 127, UCLA, Los Angeles, California 90024 for full information.

Navy ROTC

College Program students receive $100 per month subsistence allowance during the last two years of NROTC. Excellent opportunities exist for qualified College Program students to receive full scholarships (tuition, books, and $100 per month) after spending at least two quarters in the NROTC Program. Call 825-9075 or write the Commanding Officer, Department of Naval Science, UCLA, 405 Hilgard Avenue, Los Angeles, California 90024 for full information.

Other Employment Opportunities

There is a fairly wide spectrum of choice and challenge for part-time employment at UCLA. On campus, ASUCLA has regular job openings in several areas (see the 'student services' section of this book) while the Placement and Career Planning Center (located just south of Powell Library) lists jobs in a variety of categories.

Room and board in exchange for work situations are also kept on file at the Center, which is described more completely in the "student services" section of this book.

It is a good idea to also check the Daily Bruin and local newspapers for advertisements of potentially appealing part-time opportunities.

housing at UCLA

Where you live while attending UCLA can play an important role in your total college experience. Housing options include university-owned facilities, privately operated cooperatives, in fraternities and sororities, and off-campus rentals. Student demand for available on-campus and near-campus housing far exceeds the available supply. If you plan to live off campus, it is advised that you arrive early to make your housing arrangements for the coming academic year. Some students even pay rent year around (and try to sublet during the summer months to minimize costs) in order to assure accommodations for the academic year.

Office of Residential Life

The Office of Residential Life, 78 Dodd Hall, telephone 825-4491, offers services to facilitate your search for housing and to harmonize relations between you, as a tenant, and your landlord (including the University). Services are provided without charge.

Eligibility to Use Services

You must present a current quarter's Registration Card or a letter of acceptance and a valid photo identification each time you use the services.

Off-Campus Listings

Up-to-date listings are maintained of apartments, houses, rooms, room and board accommodations, part-time work in exchange for room and board, and "share" situations (for people looking for roommates). These listings are available to students who come in person to the Office of Residential Life. Listings cannot be mailed as they change daily. The office is open 8:00 a.m. to 4:30 p.m., Monday through Friday.

The University does not inspect rental accommodations and does not make rental or other arrangements on behalf of students. Student transactions must be made individually and directly with landlords. You are advised to have a clear understanding, preferably in writing, of terms and conditions of tenancy. The Office of Residential Life offers a handbook on becoming a tenant, model lease and rental agreements, other appropriate documents, and advice on landlord-tenant problems.

Rental rates are relatively expensive in and around the Westwood area. The farther you get from campus, the less expensive the rental accommodations. Cost balances convenience. Average rental rates listed with the Office of Residential Life for 1977-1978 varied from $130 up per month for rooms in private homes, from $200 up per month for furnished bachelor's and single, from $275 up per month for one-bedroom apartments, and from $325 up per month for two-bedroom apartments. Rental rates depend upon the furnishings and location of the lodgings. House listings are scarce and rental prices for houses are appreciably higher. For most rental utilities are extra. A few homes offered room and board in exchange for work from $100 up per month.

Temporary Housing

Motels are located from one to five miles from campus with varying rates and accommodations. It is advisable to have a car for additional motels.

Off-Campus Living Groups

You may find accommodations with a group living experience within walking distance to campus in privately operated cooperatives, in fraternities and in sororities.

Cooperatives

There are three privately-owned, nonprofit, member-controlled student living groups located adjacent to campus. Each student may work three to four hours per week as part payment for room and board. The Cooperative Housing Association is for men and women, the YWCA and Stevens House are for women only. For 1978-1979 room and board rates varied from $302-$450 per quarter. Cooperatives normally have long waiting lists, so early application is important! To obtain applications and information, write directly to each cooperative. A listing of cooperatives is available from the Office of Residential Life.

Fraternities and Sororities

Most fraternities and sororities own or lease homes near the campus and provide lodging and meals for a portion of their members. However, membership is not guaranteed with membership as each group has more members than live-in spaces. If you are interested in affiliating with a fraternity or sorority, contact either the UCLA Interfraternity Council (for fraternities), or the Panhellenic Council (for sororities), care of the Dean of Students Office, 2224 Murphy Hall, 405 Hilgard Avenue, Los Angeles, CA 90024, telephone 825-3871.

Meals

Students can obtain moderately priced meals at the University Residence Halls on an individual basis or by contracting for meals on a quarterly non-resident meal plan. For further information contact the Residence Halls Cashier's Office, Sproul Hall, 350 DeNeve Drive, Los Angeles, CA 90024, telephone 825-6131.
In addition, meals may be purchased on an individual basis from the various Associated Students food service facilities and from full-service vending areas located on campus.

**University Residence Halls**

Four coed residence halls accommodate undergraduate students. Graduate students (21 to 29 years of age) are accommodated in a coed graduate hall.

Rooms (shared by two students) are furnished with studio beds, desks, dressers and pillows. Students must furnish blankets, bed linens, bedsprads and towels.

The residence hall rate (exclusive of meal plan) is approximately $1632 for the academic year (Fall, Winter and Spring quarters), plus a deposit and membership fee in the residence hall student association. For portions of the year, the rate is prorated. Contracts are issued from the date occupancy is authorized through the end of Spring Quarter, 1979.

Three cafeteria-style meals are served daily with the exception of Saturdays, Sundays and University holidays when two meals are served. Special diets are not available. "Room only" contracts are not available.

**Application**

A Housing Information booklet, which includes an application for Residence Halls, is mailed to all undergraduate students who apply to the University. Graduate students receive this same booklet upon return of the "Request for Housing Information" Card enclosed with their packet from the Graduate Admissions Office. Further information pertaining to the application process is contained in the booklet.

**Assignment**

Assignments are made only to the full-time student member of the family and are not transferable to another member of the family. Verification of marriage or birth certificates are required for assignment.

To remain eligible for housing, assigned students must be enrolled in all quarters of the academic year (i.e., fall, winter and spring quarters) only. The student and his/her immediate family may live in the apartment. Extension students are not eligible.

**University Married Student Apartments**

The University maintains 643 unfurnished one-, two-, and three-bedroom apartments for married students and single student parents. These units are located on Sawtelle and Sepulveda Boulevards, approximately five miles from campus.

Rental rates for 1978-1979 ranged from $136—$195 per month. Utilities are not included in the rental rate.

**Off-Campus Parking**

During the past few years Campus Parking Service has made arrangements with commercial parking lots in Westwood Village to sell parking permits to UCLA students, and with the Veterans Administration to provide free parking to UCLA staff and students. For information regarding the availability of off-campus parking please call the Parking Service on 825-1887.

**Bicycles, Motorcycles and Mopeds**

Bicycle and motorcycle parking areas are provided at convenient locations on campus. Parking permits are not required. Parking regulations, guide maps indicating the location of these facilities and additional information may be obtained from Campus Parking Service, room 280, Gayley-Strathmore Structure; telephone 825-1887.

**Bus Service**

UCLA is linked by bus to most of the L.A. area. Fares range from 25 cents to 80 cents. That's cheap when you consider all the costs of driving—parking, maintenance and the general aggravation that comes with West L.A. traffic.

Two bus companies serve the campus directly: the Southern California Rapid Transit District and the Santa Monica Municipal Bus Lines. For detailed information on routes and schedules call the RTD at 273-0910 or the Santa Monica Bus Lines at 451-5445.
Fares—The basic RTD fare is 45 cents a ride (except express lines like Line 88, which increase in increments of 20 cents depending on distance traveled). Transfers cost 10 cents.

Student passes for a month of unlimited bus travel cost $12 ($24 for Line 88). Get them in 140 Kerckhoff Hall.

The Santa Monica lines' basic fare is 25 cents with no zone charges. Transfers are free, too; interagency transfers are 10 cents. If you're under 21, you can buy a 10-ride student bus card for $1.25—a 25 per cent discount. Buying tokens will also save you money. Both are available in 140 Kerckhoff Hall.

Culver City also operates a bus line, with 10 transfers to and from lines in Culver City and UCLA. Fares are 35 cents. Students under 21 can purchase a 10-ride bus card for $1 at the Culver City Bus business office, 9815 W. Jefferson Blvd., or the Culver City City Hall. For more information call 839-5211.

Carpools

Carpooling can save you money and at the same time cut traffic congestion, parking problems and air pollution. Commuter Computer, a private non-profit organization, has a special rider-driver matching program for UCLA. The application—available to students, faculty and staff—accommodates the two types of schedules found here: standard schedules (with the same eight-hour day, each weekday) and variable schedules (with part-time schedules or schedules that vary from day to day).

Within two or three weeks of applying, you'll receive a match list with up to 25 names of UCLA people living in your neighborhood. You can then contact people named on the list and set up carpool arrangements that satisfy your needs.

Vanpooling services may also be offered this year to people with standard schedules. A vanpool consists of 10 people who live near one another and who commute to and from UCLA. In some cases, riders receive door-to-door service, depending on the preferences of vanpool passengers. Riders pay a monthly fare determined by the round-trip mileage of the commute. Costs range from $58 per month for a 30-mile round trip to $76 for a 90-mile round trip. This fee covers fuel, maintenance, insurance and lease payments on the van.

Off-Campus Permit Parking

Parking is available free on Veterans Administration property just northeast of the intersection of Sawtelle and Le BONAvenue. A shuttle bus leaves this parking lot for campus about every 20 minutes at 10 cents per ride, starting at 6:30 a.m.

Arrangements have also been made with commercial parking lots in Westwood Village to sell permits for their facilities to UCLA students at UCLA's permit rate of 75 cents per hour. If you'd like a permit in one of these lots (each of which has at least 50 spaces available), contact a parking kiosk attendant at the facility of your choice: Westwood Center, 1100 Glendon Ave.,; the Security Pacific Bank Building, 10960 Wilshire Blvd.

Permit Alternatives

Metered parking (25 cents for 30 minutes, 40 cents for an hour) can be found across from Ackerman, south of Ackerman on Westwood Plaza, northeast of Murphy, west of University Research Library off Circle Drive, east of Macgowan (15-minute meters only), on Tiverton east of the Medical Center and at the dorms.

Parking in most permit lots is free after 9 p.m. every day, and all day Sunday.

During the day, parking is available for $1 to non-permit holders. You won't always have your choice of lots, however.

Tram Service

Night tram service is available to students needing transportation from main library facilities on campus and all on-campus dorms and sorority houses.

The tram, sponsored by the University in conjunction with student government, runs every 20 minutes between 7:30 p.m. and 11:30 p.m. Sunday through Thursday.

It makes stops on South, North and East Circle Drives, Strathmore Avenue and De Neve Drive.

The stops are:

1—Across from the campus police; 2—next to Lot 8 on Circle Drive West; 3—at the top of Bruin Walk across from Dykstra Hall; 4—in front of Sproul Hall; 5—in front of Rieber Hall; 6—in front of Hedrick Hall; 7—past the Women's Gym near Lot 5, on Circle Drive North; 8—behind URL and the North Campus Facility; 9—at Macgowan Hall, on Circle Drive East; 10—on Dickson Court; 11—across from Lot 2, near Geography; 12—across from Hershey Hall.

Tram service is free to students.

Need to know more?

"Finders Keepers"—a handbook to UCLA, with sections on transportation. Reference copies are available through all department, college, school and ASK counselors and at the College Library and University Research Library reference desks and at the number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).

student services at UCLA

This section works in concert with two other parts of the Catalog: "academics: resources to help you" and "recreation and participation." Together, this trio of services sections describes the range and variety of programs to help you.

Academic Advancement Program

The Academic Advancement Program (AAP), formerly EOF, is the primary student affirmative action program at UCLA. AAP is designed to provide academic support to students from ethnic and low income communities who have been historically under-represented at UCLA. The program seeks to assist these students in achieving their goal of graduation from the University of California. Applicants must be citizens or permanent residents of the United States and residents of the State of California. This requirement is waived for Native Americans who can document their tribal affiliation. Prospective applicants must meet regular university requirements for undergraduate admission as freshmen or in Advanced Standing. A limited number of exceptions are made each year.

Special admission consideration is given on an individual basis. AAP offers orientation to the campus service, peer counseling for all entering students; extensive personal counseling services; individual and group tutorial programs; career and Graduate/Professional school advisement; career days for all professional fields; seminars and preparation sessions for all graduate school entrance examinations; and help in determining financial aid eligibility for state and federal funds.

Campus Programs and Activities Office

The Campus Programs and Activities Office, 161 Kerckhoff Hall, telephone 825-7041, services all sectors of the campus community through program advisement, planning, and development; offering assistance to campus groups, including the graduate and undergraduate student governments, in securing program funding; uniformly interpreting and applying University rules and regulations; providing general information about all campus meetings, programs and activities; registering all for groups; and providing production and technical advice and assistance in all phases of programming.

Campus Activities Service Office

The Campus Activities Service Office administers and operates most campus facilities, classrooms for non-class usage and audioriums. They have an inventory of audio visual equipment which may be rented for on-campus use. CASO offers technical advice in the public events area to groups holding events on campus. Groups must be registered through the Campus Programs and Activities Office (CPAO, 161 Kerckhoff, 825-7041) to be eligible to use CASO services. CASO administers the Official and General Purpose Bulletin Boards on campus, as well as the General Assignment Lockers and the sale of UCLA padlocks. Located in room 130, Royce Hall, telephone 825-8981; Audio-visual services in room 2, Royce Hall, telephone 825-7487.

Campus Parking Service

Please read the "transportation" section of this book for a discussion of this service.

Central Ticket Office

The Central Ticket Office serves the UCLA community through two locations—the Ticket Office in the James E. West Alumni Center (ground floor) and at the trailer at 650 Westwood Plaza (across from the Police Station).

Tickets for all UCLA events are sold at both locations. In addition, the following special ticket services are provided at each location:

The James E. West Alumni Center location offers student tickets to athletic events at reduced prices. Tickets to off-campus events are also sold, through both the Ticketron system and the Mutual Ticket Agency. Bus tickets for the RTD and Santa Monica bus systems (discount rides for students) and special student discount tickets for local motion picture theaters are also available.

The 650 Westwood Plaza location offers student tickets for on-campus cultural events at reduced prices, subsidized by the Student Committee for the Arts. Student tickets must present their Registration Card and Photo I.D. Card. There is a limit of 2 tickets per person. Watch the Daily Bruin ads for ticket sales dates.

Child Care

Child Care Services, telephone 825-5086, offers two child care programs to University students, staff and faculty, as well as a referral file of over 400 child care centers in Los Angeles.

Child Care Center

Part-time and full-time care, depending upon parents needs, for children two months to six years. Fees range from $26/week to $56/week depending on full or part-time care. The Child Care Center is located in Parking Lot 1, behind the Credit Union and the BRI trailers at 10833 Le Conte, telephone 825-5086.
For information regarding fees call Child Care Services at 825-5086.

Family Day Care

Homes in the community which are licensed by Los Angeles County and participate in training and enrichment by the Child Care Services staff and part-time care fees and hours arranged with individual Caregivers. Telephone 825-8474 for more information.

UCLA Parent Toddler Group

Located in the Married Student Housing complex located at 3327 S. Sepulveda Blvd., telephone 391-9155 or 398-8739, this is a cooperative pre-school open to all members of the UCLA community: full-time students, faculty and staff. The program is designed to help toddlers aged 18-months to 3-years develop a sense of independence, self-worth and the ability to relate to other children and to adults outside their own families. Some structured activities which encourage mobility and dexterity are available, but the children are encouraged to make their own choices and decisions.

Tuition is on a sliding scale, according to parental income. Parents participating in this cooperative scheme are required to work at school one morning in four as their child attends. The Parent Toddler Group operates mornings Monday through Friday, 9:00 a.m. to 12:00 p.m. The afternoon sessions meet 12:15 p.m. to 4:00 p.m., three days a week.

University Parents Co-operative Nursery School

Located in the Married Student Housing complex located at 3327 S. Sepulveda Blvd., telephone 397-2735, offers a warm, supportive educational environment to children of the UCLA community. The nature of the school also provides parents of varied cultural backgrounds the opportunity to gain insights and skills in parenting. Care is provided for children ages 3-6 years. The hours are Monday through Friday, 9:00 a.m. to 12:00 p.m. and 12:00 p.m. to 3:45 p.m., with extended care available 3:45 p.m. to 5:30 p.m.

Computer Services

Registered students can obtain an account free of charge on the DECsystem-10 interactive computer operated by the Office of Academic Computing. Special hours are observed through the Chancellor support this resource designed to give students the opportunity to familiarize themselves with the use of computing equipment as a tool to assist in studies. You may use the computer to do homework, edit term papers, conduct independent research, teach yourself programming, or in connection with specific courses that make use of the computer as a learning aid. Terminals to access the computer are available in the Gradate School of Management, the Mathematical Sciences Building, and in Boelter Hall. Apply in room 4302 MSA from 8 a.m. to 5 p.m. on weekdays.

Cultural and Recreational Affairs

The Office of Cultural and Recreational Affairs (room 600 Kerckhoff Hall; telephone 825-3701) is the center of recreational activities on the campus. These are divided into four general areas:

Intramural Sports Office

118 Men's Gym – 825-3267. There are teams formed for just about every sport during every season of the year. There are divisions for men and women, as well as participation on a coed basis. Some sports (i.e., basketball) are divided into size or skill divisions, so anyone who wants to can get involved, at whatever level they choose. You can join a team in your dorm, or in your fraternity or sorority house, or you can form an independent team from among your friends. The office can help you form a team. Playoffs are set up with a winning of the division to determine the "All-U" champs. The Intramural Sports Office is located in room 118 of the men's gym; telephone 825-3267.

Recreation Services and Facilities Office

Located in room 164 Fauley Pavilion (telephone 825-4548), its purpose is to see that facilities are made available for those persons not interested in organized sports. Non-credit classes are also offered in such areas as dance, tennis, outdoor recreation, swimming, golf, judo, self-defense, gymnastics, etc. Information on both is contained in the brochure "Recreation Release" available at the beginning of each quarter in Kerckhoff Hall 600, Fauley Pavilion 164, Men's Gym, Women's Gym, Recreation Center, the Ackerman Union Information Desk, and/or posted in various places around the campus. Also watch the Daily Bruin for class schedules.

University Recreation Association

URA is an association of special interest clubs in the cultural and recreational area. There are over 40 clubs already in existence, and you may form a new one by gathering ten other people with the same interest. The types of clubs existing include water ski club, ice skating, ski, chess club, tennis, etc. For a complete list, drop by Kerckhoff Hall 600 or call. To join a club, you may either sign-up in Kerckhoff Hall 600 or simply attend the first meeting of the club (check the Daily Bruin Campus Events column). You can find the URA office in room 600 Kerckhoff Hall; telephone 825-3703.

Sunset Canyon Recreation Center

The "Rec Center" is located next to Hedrick Residence Hall. It is normally open 10 a.m. to 7 p.m. (10 a.m. to 8 p.m. during the summer). Its facilities include an olympic sized and a family swimming pool, volleyball courts, barbeque pits, picnic tables, meeting rooms, and large grassy areas. You need to bring your registration card to get in and you can bring along friends for a nominal charge ($1.00 per person).

Telephone the 'Rec Center' at 825-3671 for more information.

Dean of Students

The Dean of Students Office (room 2224 Murphy Hall; telephone 825-3871) is one of the few generalists left in these days of specialization. Besides the administration of several student services, e.g., legal services, veteran and handicapped students, student's services, it exists to help students with whatever needs they might have, either directly or by referral.

The direct services offered by the Dean of Students Office include:

- Emergency locating of and emergency messages to students;
- Fraternities and sororities; general counseling;
- "good student" automobile insurance discount verification;
- Honorary societies including Phi Eta Sigma and Alpha Lambda Delta
- Freshman honor societies, Pi Gamma Mu—social science honor society, Mortar Board—senior honor society;
- Letters of recommendation; Orientation Program;
- Tie-line for business calls to other UC campuses, and assistance in understanding grievance procedures regarding student records, discrimination, and student debts.

The Dean of Students Office also plays a role in the administration of campus discipline. This role is discussed in more detail in the "administration" section of this Catalog.

Financial Aid Office

The Financial Aid Office is located at A129 Murphy Hall. Walk-in counseling hours are 9 a.m. to 5 p.m. Monday through Friday at Counseling Window B. Counselors are also available by appointment 9 a.m. to 12 p.m. and 2 p.m. to 5 p.m. Monday through Friday. Please read the material about financial aid in the "money" section of this Catalog for a complete look at the services of the Financial Aid Office.

Foreign Students

The Office of International Students and Scholars (located in 297 Dodd Hall; telephone 825-1681) provides counseling and general assistance to all foreign students and scholars, from the time of their arrival, to help them best achieve the objectives which brought them to UCLA. Its staff, which includes professional and peer counselors, is uniquely equipped to respond to the questions and concerns of persons from other cultures. The office functions in an advisory or referral capacity on questions concerning financial aids, Immigration and Naturalization Service requirements and procedures, English language resources, academic assistance, employment possibilities, housing assistance and personal matters.

The Office of International Students and Scholars, together with the International Student Center, offers a special Orientation Program for foreign students at the beginning of each academic quarter, as well as regular workshops on topics of concern to foreign students through the academic year.

In addition, the office initiates programs designed to broaden the scope of academic advising and to ensure that academic counseling is concerned with the student's long-range professional goals.

It also functions to increase communication between foreign and American students and the larger community.

Graduate Students' Association

Student government participation by graduate students is detailed in the "recruitment and participation" section of this catalog.

Learning Skills Center

At the Learning Skills Center you can work in a variety of ways to increase your effectiveness as a learner. You may meet with an experienced counselor in a one-to-one session; you may enroll in small workshops presented by the Center each quarter; or you may use the self-paced Learning Laboratory. Each of these settings offers a unique addition to the classroom and the lecture hall which can enhance your educational process both within the university and beyond.

In the Center you will find resources available for all of your study-related concerns. These include:

- Reading: To increase your reading rate and comprehension.
- Study: To improve your study effectiveness and reduce study-connected anxiety.
- Writing: To overcome trouble spots in your writing process, whether you have difficulty getting started, generating ideas, or rewriting in any writing tasks from Freshman essays through Ph.D. dissertations.
- Speech: To develop ease in speaking in group settings Videotape playbacks are available for practicing formal and informal presentations.
- Math: To improve your reading of Science texts, with special emphasis on problem-solving.
Office of Experimental Educational Programs

The Office of Experimental Educational Programs (OECP) serves as a developmental and administrative center for programs and services providing internships, field studies, service-learning, and other learning opportunities that enrich and supplement the traditional academic curriculum. Most of these opportunities are co-sponsored by OECP and related academic departments and offer academic credit.

Academically Affiliated Programs

Information about a variety of programs and courses for which field experience components is available through the Special Projects Unit. Call 825-2295 or visit Dodd 50 for more details on UCLA undergraduate field study opportunities. Most of these opportunities are co-sponsored by OECP and related academic departments and offer academic credit.

Community Service-Learning Center (CS-LC):

Staff at the CS-LC work with students to develop a wide variety of "tailor made" opportunities. For working with a range of community agencies, a holistic approach to student placement is pursued, assessing each student's academic, personal, and experiential needs before placement occurs. Assistance is offered in the areas of:

- Program structure and placement,
- Goal clarification,
- Personal competence assessment,
- Proposal and learning contract development,
- Design and implementation of self-initiated independent and field work projects,
- Evaluation and documentation of non-classroom learning experiences.

Programs developed through the CS-LC are designed to stress an exchange relationship between the student and a community agency. Usually students offer their services in return for exposure to professionals with proven expertise in an area of need. Through the process, knowledge each student acquires can be applied to either the public or private sectors of society, though service to needy communities is emphasized. Interested students should visit or call the Community Service-Learning Center for an appointment. CS-LC is located in 51 Dodd, 825-5969.

Experiential Programs and Opportunities Center (EXPO):

EXPO serves as an information clearinghouse and placement service for off-campus opportunities and provides students, faculty, and staff with access to experiences that supplement the traditional educational format of the lecture hall, laboratory, and library. It offers counseling, information, and programs in the following areas:

- Internship Programs, including the UCLA International, Washington, Sacramento, and Los Angeles Internship Programs, the Model United Nations Program, the Volunteer Income Tax Assistance Program.

- International Opportunities, including information on study and travel abroad programs, International Student Identity and Youth Hostel cards, and internships with international agencies in the United States and abroad.

- National Opportunities, including information on alternative and summer study, internships, and travel opportunities offered throughout the United States.

- Local Opportunities, including information on cultural, recreational, and volunteer opportunities throughout Los Angeles and Southern California.

Ask and you will probably find it at EXPO, Ackerman Union A-213 (825-0831).

Ombudsman

The purpose of the Ombudsman office is to seek to resolve personal grievances of members of the university community, including policy, practices, and/or personalities. As an independent agent with investigatory powers, the Ombudsman accepts grievances only after the grievant has tried to resolve the problem through regular channels and when there is evidence that adverse decisions are questionable. The office is located in Kinsey Hall, Room 280 (phone 825-7627) and is open to all University-related persons; also at times and other places convenient to the aggrieved.

Orientation

The Orientation Program offers extensive academic counseling and educational planning to all new undergraduates entering the University. Working in small groups with peer counselors, students plan their schedules for the upcoming quarter and learn of the educational opportunities open to them. In addition, undergraduates can learn about student services and the University's facilities and activities. Each student also receives individual time with a counselor, and academic advising is recommended for all students (required by some schools/colleges) for enrolling in classes. Orientation sessions provide opportunities for dealing with the common problems in adjusting to university life.

For further information about the program (including costs and dates), contact the Orientation Program, located in the Dean of Students Office, 2224 Murphy Hall or phone (213) 825-3626. You can find information about other programs for new students in the "academics: resources to help you" section of this Catalog.

Placement and Career Planning Center

The Placement and Career Planning Center offers career development and placement services to students of all disciplines and all degree and class levels. It is comprised of three functional divisions: Career Development, Student Employment, and Educational Career Services. Services are located in the Placement and Career Planning Center building and in two satellite locations: 1349 CSM, specializing in Management, and 6417 Boelter Hall, specializing in Engineering and the Physical Sciences.

Career Development

A staff of career counselors is available to assist in career exploration, choice, and the job search. The Career Resources Library furnishes information for planning further education and alternative careers.

The Campus Interview Program provides convenient access for students to interview with employers and graduate school representatives. A more diverse array of job opportunities is posted for direct referral to the employer.

Student Employment

A job listing and referral system is provided for currently enrolled students and their spouses who are seeking part-time, temporary, or vacation employment. Career-related opportunities (including paid and non-paid internships) are available either through the listings or through personal search with the assistance of this unit.

Educational Career Services

Specialized information and counseling is available to assist students and alumni seeking positions in universities, colleges, community colleges, and secondary and elementary schools. Current listings of educational job opportunities, internships in educational institutions, and a professional file service are included.

Psychological and Counseling Services

The Psychological and Counseling Services include two separate divisions—The Behavioral Division and The Counseling Division. Both divisions provide professional services focusing upon student development, and are for the voluntary use of any regularly enrolled student.

Behavioral Division

The Behavioral Division (4223 Math Sciences, 825-4207) offers counseling for students who want to increase their effectiveness in handling specific problems encountered in the course of university life. Typical concerns which can be resolved through a self-management learning process include overcoming test-taking anxiety, fear of oral exams or participating in classroom discussions, public speaking anxiety, tension or ineffectiveness in difficult interviews, and procrastination in studying. Other personal problems in which excessive anxiety or inappropriate learned behaviors interfere with performance can also be relieved, such as lessening difficulty in meeting people, learning to express oneself more directly and honestly in interpersonal relationships, and finding ways to increase self-confidence and self-control. Emphasis is placed upon the learning of techniques and abilities to help students implement decisions they have made and more effectively to realize their goals.

The staff is composed of professional psychologists. Both individual and group programs are offered. Students should call or come in to arrange an appointment or to receive further information.

Counseling Division

The Counseling Division (4223 Math Sciences Building, 825-0768) offers individual and group counseling for students who want to increase the number of general concerns, dilemmas, crises or indecision which are often encountered by students. Difficulties related to the process of making decisions, clarification of values or long-range personal and career goals, the resolution of conflict in expectations, the handling of intense emotional experiences, and other concerns affecting the personal growth of students are among those to which the Counseling Division is related. Educational and career interest inventories can be taken upon request. Marital and pre-marital counseling, and counseling related to problems encountered in other forms of relationships is also available. Emphasis is placed on the exploration and clarification of feelings, choices, expectations, and alternatives, and the resolution of indecision or inability to act.
The staff is composed of counseling psychologists and other professionals familiar with the needs and interests of college students. Students should call or come in to arrange an appointment (immediate appointments are possible, if indicated) or to receive further information.

Religious Programs
The University Religious Conference is located on the Los Angeles campus of the University, under the auspices of the Regents of the University, on the Los Angeles campus of the University. The staff is composed of counseling psychologists, who think critically and who have the ability to communicate with clarity and precision, and apply the knowledge and leadership qualities that do not qualify graduates for commission as officers in the United States Army.

By action of the Secretary of the Navy and of the Regents, a unit of the Naval Reserve Officers’ Training Corps was established on the Los Angeles campus of the University in 1938. Provision was made for the establishment of a unit of the Naval Reserve Officers’ Training Corps on the Los Angeles campus of the University.

The primary objective of the Naval Reserve Officers’ Training Corps is to provide an education at civil institutions which will qualify selected students of such institutions for appointment as officers in the Regular Navy, Naval Reserve, Marine Corps, or with the Navy, or with Marine Aviation. You may expect to be commissioned and to be ordered to active duty in ships, submarines, aircraft or aircraft of the Navy, or with Marine Aviation. You can check the Naval Science listing in the “courses” section of the catalog for more details.

In addition, each of these programs offers financial assistance to participating students. Turn to the financial aid section in “money” in this Catalog for more information.

Student Health Services
General Description
The Student Health Service is a campus organization dedicated to helping you meet your health needs as a UCLA student. Major program elements are integrated by Student Health to provide a comprehensive approach to addressing your health care concerns. These are:

1. Clinic Facilities conveniently available on campus, designed and staffed to provide a broad range of direct, primary health care services, both preventive and medical, to anticipate and meet most of your health care needs. The Student Health Service’s facilities are available to all registered students, on both the UCLA and the UCLA Extension campuses. Facilities conveniently available on campus, designed and staffed to provide a broad range of direct, primary health care services, both preventive and medical, to anticipate and meet most of your health care needs.

2. Programs and Learning Opportunities to increase your awareness of your own health and your responsibilities for it, to keep you free from disease and to assist you in achieving “good health.”

3. A Voluntary Supplemental Health Insurance Plan, available for purchase at reasonable rates, designed to provide substantial financial coverage for the costs of necessary care which cannot be obtained in Student Health, such as in-patient hospitalization, surgery, or off-campus treatment.

Benefits, Locations, and Hours
Direct Student Health services are available to students at the UCLA Student Health facilities and in some officially connected facilities, except for benefits through the Student Health Services of other UC campuses. The URC members may currently be primarily organized to meet the majority’s needs for health care, health education and counseling as may arise during active attendance at UCLA. Direct Student Health care needs are those which do not require further diagnostic work or consultation beyond the services provided by the URC’s own health professionals or other resources off campus.

Benefits
These facilities are closed, students in need of emergency care must seek care elsewhere, such as in the UCLA Hospital Emergency Room, or in the Hospital’s Acute Care Clinic. Charges for UCLA hospital emergency services are NOT the responsibility of the Student Health Service. They will usually be covered by whatever health insurance the student may have, but where no insurance is applicable, will remain the student’s responsibility.

The Student Health Service is not responsible for in-patient hospital costs at UCLA or elsewhere, and is not responsible for ambulance fees, except when authorized in connection with on-campus emergencies, although such costs are usually covered by the student’s health insurance, including the UCLA Supplemental Health Insurance Plan, for any legitimate use.

Benefits are subject to change at the discretion of the Chancellor, with appropriate official prior notice.

General Medical and Surgical Services
The Student Health Clinics include:

a) Primary Care Clinics where students with all kinds of ailments may be seen either by appointment or on a walk-in basis. These clinics are organized to provide students with efficient, quality care. Qualified clinic personnel screen students who arrive without advance appointments in order to determine how best to meet their needs. Students will be seen in the Rapid Care unit unless their condition requires further diagnostic work or consultation with a specialist, in which case they may be scheduled to see a clinician in one of the General Care units or be referred to one of the Specialty Clinics. Any student may make an advance appointment for one of the General Care units by stopping by the appointment desk in person or by calling 825-2463.

b) A wide variety of Specialty Clinics are staffed by consultants with specialized knowledge and skill. These clinics are seen in these clinics only by appointment and only after referral from the Primary Care Clinics or another Specialty Clinic. A small charge for missed appointments applies to both the General Care units and to the Specialty Clinics. Ancillary services such as Clinical Laboratory, X-Ray, and Pharmacy, are available at Student Health. An immunization clinic operates during the selected hours, Monday through Friday. Most charges for pharmacy, immunizations and health physicals. All other general health care services are provided at no additional cost to fully registered students.

The Dental Clinic
Available without the need for referral, the primary function of the Student Health Dental Clinic is to treat dental emergencies. Emergency care has priority over non-urgent procedures. Dental examinations, x-rays, prophylaxis, hygiene instructions and advice are provided. In addition, most dental problems are provided. A limited amount of general dentistry and dental surgery is available. It should be noted, however, there is a fee for all services in this Clinic. Students are required to pay the scheduled fee for dental care at the time of treatment. Exception: Initial examination for dental injury or conditions may be given at no cost if referred by other Student Health professional staff, and if no x-rays or operative procedures are required. For information call 825-5858.

Mental Health Service
The Mental Health Clinic offers individual and/or group psychotherapy, along with many other diagnostic and psychological services. The professional staff, which consists of psychiatrists, psychologists and social clinical workers, provides help with situational stresses, such as school pressures, exam anxiety, family problems or relationship problems, as well as with other emotional or psychological problems. Mental Health Service records are kept totally confidential. In an emergency a student will always be seen immediately. For information call 825-7985.

Gynecology and Contraceptive Services
Services in the Clinic which are available to all registered students include:

1. routine women's health care needs, (2) gynecology problem clinics, (3) family planning through CECCE (Conception
Counseling and Education Clinic), (4) sexuality (students who wish to utilize the contraceptive services are required to first attend one of the educational classes (approximately 1/2 hours) offered in the clinic several times each week. We also encourage men to attend these classes.

All of the services offered in the clinic are at no cost to students with the exception of contraceptive materials and other medication except during the summer quarter when a fee for-service charge for visits is in force. No direct service or coverage is provided by Student Health for indicated abortions except for counseling and referrals. The clinic is operational on a year-round basis except for official University holidays and vacations and/or appointments, call 825-3580 weekdays from 8-9 a.m. (except Tuesdays) and from 3:30 to 4:40 p.m. or come in person to SHS.

Hospitalization
The University and its Student Health Service does not provide coverage for the costs of students' hospitalization in in-patient care at UCLA or at any other hospital. All such hospital and related costs are the student's responsibility.

To assure protection against unexpected and sometimes severe financial losses, students must be certain that they are covered either through independent hospital/medical insurance, or through purchase of the UCLA Supplemental Health Insurance Plan at the beginning of the first registered quarter.

Financial Support of Health Services
Student Health is supported principally by allocations from the Registration Fee paid by all fully registered students, and by the Optional Health Service Fee paid by some other categories of students. Those paying the Registered Fee, or the Optional Health Service Fee, receive all benefits as described above at no further cost, except minimal fees for medications and injections, for dental services, for required health evaluations, and for a few other services.

Students who are not otherwise eligible may use Student Health on a Fee-for-Service basis, as they would a private physician or clinic, paying for services actually received according to a fee schedule which is available for students inspection upon request.

Summer Session Fees. Filing Fees, and any other monies advanced for special study categories short of full Registration do not in themselves provide any support to or eligibility for Student Health services, but may make such persons eligible for benefits either by paying the Optional Health Service Fee or on a Fee-for-Service basis as explained below. Benefits not directly provided through the UCLA Student Health Service may be covered by the student's personal financial responsibility, or without the aid of any health insurance he/she may hold. Such insurance, including the UCLA Supplemental Health Insurance Plan (see below) effectively extend the full health-care coverage beyond the limits of direct Student Health service.

Conditions of Eligibility
Student Health is primarily reserved for the use of students at the Los Angeles campus of the University is open, and in special situations, for students from other U.C. campuses.

Students paying a full Registration Fee in any quarter of the regular academic year of any school, college or division of UCLA are entitled to full benefits as set forth below with official verification of registration. This entitlement extends from the first day of the Quarter (as officially published) through the last day of same, except if the student withdraws. (See below for limitations following withdrawal.) If the student intends to register for the next immediately following quarter, his coverage extends through the break between quarters.

On the basis of a reciprocal arrangement between U.C. campuses, students currently registered at other U.C. campuses may receive necessary care on the campus of their choice. In the case of an officially confirmed transfer to UCLA as a fully registered student, the student will be entitled to full benefits, during the regular academic year, for the period between the last day of registration at another U.C. campus and the first day of the UCLA quarter immediately following.

Some categories of students who pay anything less than the full Registration Fee may receive Student Health benefits during any quarter (including Summer months) in which their eligibility applies by paying one of the two following payment methods:

A. They may receive full benefits by pre-payment of the optional health service fee prior to the close of the 30th calendar day of the quarter or initial Summer Session, or:

B. They may utilize the Student Health Service on a fee-for-service basis up to the last official day of the academic session just preceding and the opening day of the next session following such periods.

The specific categories of students eligible for these options are as follows:

1. Continuing students (including those from other U.C. campuses transferring to UCLA) during Summer months, whether attending Summer Session or not.

2. Accepted candidates for any UCLA degree during any one quarter of non-registration, for any reason except withdrawal, provided that they have been fully registered or have paid the Optional Health Fee in the previous quarter or include the last day of the previous quarter.

3. Graduate students actively researching and/or writing dissertations, who have no need to take classes or to register for this purpose, and who are not required to pay the Filing Fees. Service is contingent upon presentation of any official written confirmation of current sponsorship and continuing BONA FIDE degree candidacy for the Quarter from the possible senior Faculty member or Department Head.

4. Graduate students paying a "Filing Fee" for dissertations, but not otherwise registered for that quarter or Summer period in which that fee is paid.

5. Postdoctoral fellows and trainees, properly identified as such by their sponsors, working full time towards additional credentials in any quarter or summer period.

6. Foreign students, not yet registered, but living near campus and working under University sponsorship to meet language and/or other academic prerequisites to full registration, when approved by the Office of International Students and Scholars.

7. Medical and Dental students, technically "registered" for purposes of medicolegal coverage during elective or "free" quarters, but paying no registration fee, with appropriate confirmation.

In all of the above situations service charges incurred prior to the 30th day of the eligible period are NOT automatically cancelled by subsequent payment of the Optional Health Service Fee.

Some other categories of students having only interim, partial, or qualified University status, may be eligible for Health Services use, but solely on a Fee-for-Service basis as follows:

1. Students enrolled in Summer Sessions only, who were not, and will not, be fully registered or enrolled in the preceding or following quarters.

2. Students whose re-registration in the next regular quarter is in any doubt following withdrawal, or receipt of a degree. In such cases, the Fee-for-Service use privilege extends only to the opening day of the next regular quarter, or the initial Summer Session, whichever is sooner. Thereafter, eligibility on any basis terminates until official confirmation of re-registration or Summer session is presented.

3. Special Scholars, specifically sponsored part-time, visiting, and exchange students and researchers primarily based elsewhere, when officially designated and by the specific sponsor, may use the Health Service, but only for emergency care of acute illness and injury apparently arising in connection with their scheduled study and activities on the UCLA campus, on a Fee-for-Service basis.

Prospective students arriving from significant distances and students required for any University-connected reasons to be on campus prior to the first day of the quarter will be entitled to full benefits during such periods with proper documentation of their status and intent to register; if later they fail to register, they will be charged for services actually received.

In some unusual situations, if in the best interests of the student and the University, the Director may approve eligibility, an exception to the foregoing conditions, on a case-by-case basis.

Supplemental Health Insurance
The cost of necessary hospital in-patient care is not covered by Student Health nor is the cost of any care obtained outside of Student Health. Students treated within Student Health following withdrawal from school or during an unregistered quarter are liable to Fee-for-Service charges for care rendered. Since such costs are the student's responsibility, and may cause serious financial hardship, it is of great importance that each student have adequate health insurance. In the case of Foreign Students attending UCLA on non-immigrant visas, the University requires a condition of Registration that they have, or purchase, adequate insurance as judged by Student Health. Additionally, it should be noted that the University reserves the right to require adequate health insurance of all students as a condition of registration.

If not already covered by health insurance, the student may purchase the Supplemental Health Insurance Plan developed by the UCLA Student Health Insurance Committee, whose membership includes students, administrators and Student Health staff. This Plan is available at very low cost through Student Health only at the beginning of each Quarter. The specific enrollment periods for the insurance appear in the Calendar at the front of this Catalog.

Supplemental Health Insurance coverage is negotiable annually and is typically structured as follows:

It is an "excess" plan providing benefits only after the Plan has been exhausted. It is a "supplemental" plan, which is intended to provide coverage ONLY for those services not available to students through the Student Health Service facilities. Only those expenses which be paid under this policy should expenses be incurred for services which could have been obtained in Student Health.

"Pre-existing" conditions are not covered. These are conditions for which professional advice or treatment was received or was necessary prior to purchase of the Plan. Such conditions are covered only after continuous enrollment in the Plan for 12 months.

The Plan will also have other specific benefit exclusions. Students are urged to carefully review the policy prior to purchase. Assistance in this matter may be obtained at the Student Health Insurance desk or by calling the Insurance Coordinator at 825-1856.

The Supplemental Health Insurance Plan is not automatically renewed and students are not automatically enrolled in it. Students must re-apply for the Plan each quarter or before a coverage period expires. Renewal notices are not mailed.
Care of Students' Dependents

Due to limitations of staff and space, no care for students' dependents can be provided within the Health Services. Supplemental Health Insurance Plan may be purchased at Student Health for the dependents of any student who has purchased it for him/herself. Dependent benefits under the insurance plan will be identical to those available to the student.

Confidentiality of Medical Records

To protect individual privacy, no information whatsoever will be given to any person regarding a student's medical condition without his/her prior written consent or a legal court order, except in cases of extreme emergency when not to do so would in the Director's opinion endanger the student's life, or the lives of others and as otherwise required by law. Students have the right to examine and review the contents of their medical records in the presence of Student Health professional staff members by appointment and according to established rules. The record itself, however, is the property of the University, and may not be removed from the premises by any person, except under court order.

Care Off Campus

When visiting another University of California campus, a UCLA student is eligible for services at that campus. Student Health Service offers the same conditions that apply to students enrolled on that campus. Verification of student registration at UCLA will be required. While a student is off-campus, participation in the insurance plan is voluntary. Necessary medical expenses incurred because of injury are covered by insurance carried by the Regents of the University. This policy does not cover any care which the student could reasonably have obtained through UCLA Student Health Service.

Third-Party Liability and Subrogation

When a student is treated under Student Health Services auspices for illness or injury resulting from third-party negligence or intent, the University reserves the right to recover the actual costs of such care as the "prime insurer", by assignment or subrogation from any subsequent legal settlements and/or awards to the patient.

Federal Income Tax Deduction. For federal income tax purposes, the amount allocated to Student Health from each quarterly Registration Fee paid during the taxable year may be taken as a deduction for medical care. This amount changes each year, and the exact figure for the most current taxable year may be obtained by contacting the Information Desk at Student Health.

Additional Information

Students and others may obtain additional information by calling Student Health at 825-4073, by visiting the Service, or by writing the Director. Besides the general information number, the following may be useful for specific information or appointments:

- Conception Counseling and Education 825-5850
- Dental Clinic 825-5858
- Insurance Coordinator 825-1856
- Mental Health 825-7985
- Pauley Pavilion Station 825-5700
- Primary Care Clinics 825-2643
- Student Health Services 825-0861
- UCLA Hospital Emergency Room 825-2111
- Emergency (Campus Police) 35

There are certain responsibilities students can take to guarantee maximum benefit from the Student Health Service:

- Know about all the services Student Health provides and the amount of them.
- Participate in the self-help clinics and student-run health programs.
- Make appointments, but remember charges are made for missed appointments, so cancel ahead of time.
- Early in the day is best for walk-in service. Early is also best for appointments.
- Buy insurance. Be a responsible employer.

Health Requirements at Entrance

Before coming to the University, all students are urged to have their own physician and dentist examine them for fitness to carry on University work, and to have all defects capable of being remedied, such as dental cavities, defective hearing, or defective eyesight corrected.

All new and re-entering students in the Graduate School of Dentistry, Education, Medicine, Nursing or Social Welfare must complete and return to the Student Health Service the health evaluation form mailed to them with their registration materials. These individuals are required to be cleared by Student Health for adequacy of health insurance and freedom from active tuberculosis before completing registration.

Other students are not required to complete a health evaluation form as a condition of registration. However, students who would like to participate in a special campus medical program for the physically disabled are urged to contact the ABLE Student Medical Program Co-ordinator in the Student Health Service.

Student Legal Services

Registered students with legal problems may obtain assistance free of charge in the resolution of their difficulties in such diverse areas as landlord/tenant relations, domestic relations, accident and injury problems, criminal matters and contract and debt problems. Each student will be seen on a walk-in basis in the Dodd Hall 70 office by an attorney or by a law student participating in a clinical program of the UCLA School of Law under the direct supervision of an attorney.

University Policies Commission

The University Policies Commission functions as a deliberative body to study and, when appropriate, recommend innovations or policy changes which would enhance the quality of the campus environment. Representing all segments of the campus community, its membership includes three students, three faculty members, three non-academic staff members, and three administrators.

Students, faculty, staff, and administrators are encouraged to contact the Office at 126 Royce Hall or call 825-7906 with policy items of concern to them and the campus community. For more information about UPC and student government, see the "recreation and participation" section of the Catalog.

Veteran Affairs

The Office of Special Services/Veterans Affairs (located in A-253 Murphy Hall; telephone 825-1501) provides numerous counseling and support services for veterans and physically disabled students. The office also verifies enrollment for Social Security purposes. Services include:

Information

Information about V.A. educational benefits, compensation and pension educational benefits, tutorial assistance, V.A. work-study and loan programs.

Fee Waivers

Issued to dependents of California veterans who are deceased or disabled because of service-connected injuries and meet the income restrictions in Education Code Section 10652.

Services for Disabled Students

Available to any physically limited student including assistance in registration and enrollment, parking permits, fee deferrals authorized by the California Department of Rehabilitation, Readers for the Blind, proctoring examinations and minor repairs to wheelchairs.

Status Certification

Certification of student status. For recipients of Social Security benefits.

Visitors Center

The Visitors Center (located in 1215 Murphy Hall; telephone 825-4330) has a reception area where visitors are met, welcomed, and assisted. Campus appointments for both domestic and foreign visitors, including escorting and interpreting, are part of the services offered.

Campus tours for the public are frequently offered, and personalized campus tours are arranged on special request for visitors and guests of University staff and faculty.

Literature and information on campus events, concerts, exhibits, lectures, and recreation areas are kept on hand in the Center.

Women's Resource Center

The Women's Resource Center (WRC), DOD 2, 825-3945, was created by students, staff, and faculty who were concerned about the needs of women on the UCLA campus. The Center provides a comprehensive referral service, an answer to or a way to find answers to any questions a person may have, a meeting place for new and ongoing groups, programming on women's interests for the general campus community, and a center for activism on behalf of women's issues. Services include:

- Personal Referral, in the areas of career, lifestyle, employment, medical, legal, academic, affirmative action, financial and credit information, and personal counseling.
- Information Services, books and magazines on women, information on groups and women's organizations, Women's Studies, single sheet articles and articles on a wide variety of topics that can be used for research.
- Group Involvement, in consciousness raising, assertive training referrals, women returning to education, lesbian sisterhood, program planning, participation in any of the groups that plan and work for the Women's Resource Center, such as volunteer staffing, program development, the quarterly newsletter, the Women's Information Network (WIN).
Food Services

ASUCLA operates the general campus food service for UCLA with a number of menu options at a variety of locations.

The Treehouse—Located on the first floor of Ackerman Union, the Treehouse is the Student Union’s source for breakfast, lunch and dinner. You can find a carved-to-order roast beef sandwich and make-your-own salad bar; the “Truck Farm” which offers fresh vegetable salads, cold soups, cheese wedges, sandwiches-by-the-inch, fresh fruit, freshly baked specialties, and two lines of cafeteria fare. Adjacent to the Treehouse is the Sandwich Room where you can find low-cost traditional sandwiches, along with Belgian waffles for breakfast and barbecued beef sandwiches for lunch. Open Mon-Fri 7:15 am-7:30 pm.

The Coop—The Coop is a fast food operation on A Level of Ackerman Union which provides hamburgers hot dogs, french fries, Mexican dishes, pizza and Italian submarine sandwiches. In addition, the Coop offers omelets for breakfast and top sirloin steak dinner sandwiches. Open Mon-Fri 8 am-9 pm, Sat 10-6, Sun 12-7.

North Campus Student Center—This food service facility is located just south of the Research Library and offers a full line of menu options, including carved-to-order sandwiches, full-course entrees, deli-type sandwiches, a salad bar, hamburgers and french fries, and special “garden sandwiches”. North Campus Student Center is open for breakfast, lunch and dinner. Hours are: Mon-Thur 7:30 am-11 pm, Fri 7:30 am-8 pm, Sat 8-10 am, Sun 11-8.

The Bombshelter Deli and Burger Bar—This unique food service is located in the center of the Court of Sciences. It offers an assortment of deli sandwichs and salads at low prices. In addition, you can get hamburgers and fries or a genuine falafel for lunch. “Gypsy breakfast” are served in the morning. It is open Mon-Fri: 7:30 am-5 pm., Sat 10-3.

Campus Corner—The oldest of the ASUCLA facilities, the Campus Corner is located just across Bruin Walk from Myerhoff Park. Pita bread pocket sandwiches, soft frozen yogurt, hamburgers and french fries are available. Hours are Mon-Thur 8:30 am-5 pm, Fri 8:30-5 pm.

Kerckhoff’s Coffee House is a Baskin-Robbins 31 Flavors Bar with Cafe and Crêperie and a traditional coffee house. Live entertainment is a nightly attraction at the Coffee House. The coffee house is located on the second floor of Kerckhoff Hall. It is open Mon-Fri 8am-11pm, Sat 11 am-6 pm and Sun 11 am-5 pm.

Potlach is a lounge on the first floor of the Graduate School of Management (GSM 1323A) which offers sandwiches, snacks and beverages. Hours are Mon-Thur 8 am-9 pm, Fri 8 am-2 pm.

Banquets and Catering—The ASUCLA Food Service also provides catering service within the Student Centers and throughout the UCLA campus. They will be delighted to discuss any banquet or catering needs and are prepared to offer attractive and innovative options. Visit the catering office in 1311 Ackerman Union or call them at 825-0611.

Alumni Association

You don’t have to be an alum to take advantage of the programs and benefits of the UCLA Alumni Association. Staff, parents, University Extension students are all eligible for membership—and students can join for only $5 a year. If you’re a graduating senior, you may want to join as an alumni member ($20 a year), which lets you charge in the Coop, and we’ll give you a discount on a University Extension class, priority football seating, discounts on UCLA Athletics and more. Those joining as life members also receive a 10% graduation announcement discount. Some of the activities of the Alumni Association are:

Student Relations

Student Relations Programs are designed to encourage students to talk and meet with UCLA students, faculty and alumni through a series of unique “Dinners for 12 Strangers” which are held during the Winter Quarter each year. Other alumni programs for students feature student membership, which offers all kinds of benefits at a special price, and young alumni events for recent graduates.

Tutorial Program

Jointly sponsored by the Los Angeles City Schools’ Volunteer and Tutorial Program, the alumni program consists of a youth tutorial program and a project to provide individual tutoring services to functionally illiterate adults. All members of the UCLA community are welcome to participate in this program.

Career Resources

The Association is also committed to the career and employment needs of students and graduates and has recently established several cooperative programs with the UCLA Placement and Career Planning Center for the purpose of providing informal career guidance and generating job opportunities.

Advisory and Scholarships

Advisory and Scholarship Program, the oldest of the association’s programs, awards approximately $70,000 in scholarships to entering freshmen. Eligibility for the awards are a minimum 3.50 GPA and California residency. Financial “need” is not a requirement, and the awards are conferred on a competitive basis. Recipients of the awards are all members of the UCLA community. Students, faculty and alumni events for recent graduates, and young alumni events for recent graduates.

Clubs

Under the umbrella of the Alumni Association are many organizations, grouped according to their functions or geographic location.

More Information

You can get more information about the facilities of the UCLA Alumni Association by phoning 825-3901, or drop by the James E. West Center (across Westwood Plaza from Ackerman Union) Mon-Fri 8:30 am-5:30 pm.

Need to Know More?

This section of the Catalog has given you a spot-lighted selection of available student services. It’s designed to tell you that they’re here—and how to find them. It is worth repeating, though, that the best way to learn more about each of them is to call or visit the offices mentioned below.

Reference copies of “Finders Keepers” also include information about Student Services. They are available through all department, college, school and ASK counselors at the College Library and University Research Library reference desks and at a number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).
recreation and participation at UCLA

The fact is, the phrase “a college education” is an incomplete description of the opportunities available at UCLA. One of the most stimulating aspects of the UCLA experience is the fact that there is not just a single education here—“a college education”—but actually many different avenues to learning which, taken all together, make up the components of your education at UCLA.

Most of the other sections of this Catalog have focused on the academic aspects of UCLA. This section will attempt to describe the educational experiences which occur outside the classroom.

One other note: the information you find here is related to the “student services” section of this book as well as the chapter called “academics: resources to help you”. And, like those other sections, this information will only be of real value if you actually make a move and do it.

Lastly, you should notice, too, that the activities, places and experiences touched on here are open to people at all levels of skill or interest, with all levels of spare time or spare money.

Involvement outside the classroom can make a major difference to the quality of your education here. “a college education” enhanced by the collection of choices talked about below.

Athletics

A first look at UCLA, an impression of classrooms surrounded by a grassy sea of playing fields, is a fairly accurate picture of the relationship between athletics and academics here.

There is a wide assortment of athletic opportunities available here as well as women, for intercollegiate team play or a solitary jog at dusk. If you already have a favorite sport, you will get plenty of chances to practice it. If you have always wanted to learn about a new one, there are lots of people to teach you how to do it.

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. The Pacific 10 provides opportunities for participation on the varsity level in baseball, basketball, track, baseball, tennis, crew, volleyball, gymnastics, swimming, water polo, riflery, golf, wrestling, soccer, rugby, fencing, cricket and cross-country.

As a player or a spectator, there is always something happening on the UCLA men’s intercollegiate calendar.

Women’s Intercollegiate Sports

The Department of Women’s Intercollegiate Athletics sponsors eleven different varsity programs for women athletes under the jurisdiction of the Association for Intercollegiate Athletics for Women (AIAW) and the Western Collegiate Athletic Association (WCAA). UCLA’s women’s teams have won many national, regional and conference titles and have national ranked teams in basketball, volleyball, swimming, tennis, track and field, cross-country, and gymnastics. Athletic grants-in-aid are available on a selective basis in most sports.

UCLA is proud of its commitment to women’s athletics and is equally proud of the athletes themselves, who have achieved distinction at the highest levels of national and international competition.

More Information

If you would like more information on the UCLA Intercollegiate Sports Program, call the Department of Athletics at 825-3236 or 825-3326.

Office of Cultural and Recreational Affairs

The Office of Cultural and Recreational Affairs serves as the administrative center for the coordination of facilities, equipment, programming and supervision of all athletic and recreational services. All students who have paid the full registration fee are entitled to these services. Four professionally staffed divisions provide a variety of services and activities to accommodate the total campus community. You will find additional descriptions of these activities in the “Student Services” section of this book. These are:

Recreation Services and Facilities: Opportunities for informal participation in swimming, body conditioning, basketball, handball, volleyball, badminton, tennis, and field sports are available seven days a week at the two gymnasiums, the Memorial Activities Center, the athletic fields, and tennis courts. Facilities and activities are offered in tennis, skiing, volleyball, exercise and figure control, swimming, water safety, senior lifesaving, gymnastics, etc.

You can get more information by visiting room 164 of Pauley Pavilion, or by telephoning 825-4546.

Intramural Sports: Organized participation at various skill levels is available to students throughout the year. There are opportunities available on an individual, dual, and team basis. The total program includes coed activities as well as the wide range of sports for men and women. The Intramural Office is located in Men’s Gym 118, telephone 825-3703.

University Recreation Association: The University Recreation Association is a federation of over forty special interest clubs which features clinics, seminars, exhibitions, concerts, lectures, classes, tournaments, and field trips. The clubs serve students with interests ranging from chess to surfing, and karate to skiing. Visit the URA Office in Kerckhoff Hall 600 or telephone 825-3703.

Sunset Canyon Recreation Center: The Sunset Canyon Recreation Center is a recreational and cultural facility which serves the community. It is open all year, seven days a week, for formal and informal use on both an individual and a group basis. Located in the hills of the west campus adjacent to the residence halls, it features two swimming pools (one for children), picnic-barbecue areas, multipurpose play fields, and an outdoor amphitheater. Rooms are available for meetings, receptions, symposia, dances, catered banquets and dinners. The Center sponsors programs of poetry readings, informal concerts, exhibitions and art and dance classes for adults and children. An extensive aquatic program includes swim classes for children and adults. You can call 825-3671 to get more information.

Cultural Opportunities

The geographical location of UCLA and its position as a leader in the arts combine to make a rich variety of cultural activities available.

On Campus

If you wish to be active beyond the sphere of your field of specialization, there are clubs (see descriptions later in this section) and interesting classes offered to non-majors by various academic departments.

Complementing the academic environment, UCLA offers you the opportunity for personal growth and development in a variety of programs and activities.

The campus presents a changing variety of cultural and recreational events, many of which are free of charge or available to the student with substantial discounts. For time and place you are urged to check the student newspaper—the Daily Bruin—and the campus announcement boards.

All that can be done in a catalog is to give you an overview of what happens on campus.

In Music there are fine choral groups as well as the Opera Theater. Also, instrumentalists are invited to play with the University Symphony Orchestra and the College Repertoire Choir, featuring the famous Lachmann Collection of Historical Stringed Instruments. The UCLA bands include the Wind Ensemble, the Symphonic Band, the Marching Band, the Varsity Band and the Jazz Ensemble. Augmenting the campus community, the bands are frequent off-campus performances.

Since there is an extensive program in ethnomusicology on the UCLA campus, students also have the unique opportunity to participate with various non-Western performance groups, all playing on representative native instruments.

UCLA also offers students numerous opportunities in theater arts through the various programs of the Theater Arts Department. The creative and technical work on productions is done by major students in the Department, but acting roles in all media are open to any student registered in the College of Fine Arts. Each year the Theater Division presents to the general public a series of major productions in the Ralph Freud Playhouse, the Little Theater and the “arena theater.” Other activities include the program of One-Acts written and directed by students; the productions of the puppet theater; and the Children’s Theater program. The Musical Theater/Thaut Productions presents three hundred student-directed films each year, with various screenings, as well as numerous television programs.

You will also find the opportunity for participation in afternoon and evening dance concerts and demonstrations and various performances of theater and opera workshop productions. There are folk and ethnic performing groups which meet regularly. Students of dance may direct and choreograph, as well as perform.

In addition, UCLA is one of the nation’s leading university centers for the performing and graphic arts, presenting an average of more than 600 individual cultural events each year to both campus and community audiences. An extensive schedule of productions and public events by the Committee on Fine Arts Productions features performances by world-renowned artists both classical and popular.

There is a full calendar of exceptional programs by the Music, Dance, and Theater arts Departments, including the Motion Picture and Ethnic Music Divisions. Another aspect of the program, sponsored by ASUCLA and/or the Student Committee for the Arts, brings leading jazz and folk presentations and artists-in-residence to campus.

The Committee on Public Lectures sponsors five public lectures of general and scholarly interest by distinguished authorities, supplementing and stimulating the work of University departments and sharing with the community at large its resources and expertise.

In the graphic arts, the Frederick S. Witig Art Gallery and the Grunwald Center for the Graphic Arts in Dickson Art Center have established a national reputation for presenting and originating important exhibitions, including the distinguished annual UCLA Art Council Exhibition. The Museum of Cultural History presents regular exhibitions that include works from one of the world’s foremost university collections of ethnic art.

A special Student Committee for the Arts subsidizes programs that provide eligible UCLA students at only $2 for a great many campus events. Tickets are obtainable at the Kerckhoff Hall Ticket Office. Public tickets to events sponsored by the Committee on Fine Arts Productions are available at the UCLA Central Ticket Office at 650 Westwood Plaza, which also makes a limited number of tickets available to all full-time students at reduced rates.
Off Campus
Westwood Village has become the entertainment magnet for the entire West Los Angeles area. There are 17 first-run movie theaters, a crowded menu of restaurants, several bookstores, a couple of discos and a pinball arcade. Prices tend to be high, but Westwood has the advantage of being accessible from campus on foot. In fact, the most popular Westwood activity—walking the streets and watching the people—is free.

In any one of the bookstores in Westwood, you will also find an entire shell of books devoted to the cultural attractions of the town beyond Westwood—Los Angeles. While these guidebooks attest to the impossibility of summarizing the vibrant cultural life of the city, they also indicate the virtually limitless list of "things to do." Los Angeles is home to major museums, motion picture studios, a world-renowned symphony orchestra and many other cultural focal points.

Two encouraging generalizations can be made, however: most cultural activities (Music Center, Los Angeles County Art Museum and so forth) feature a student discount policy or student ticket performances. And, a car isn't really necessary to get to most of the off-campus attractions. (Please see the "transportation" section of this Catalog.)

UCLA and the Natural Environment
UCLA is located in an urban setting but the campus is also mere minutes of coastline along the Pacific Ocean, and acres of protected wilderness in the Santa Monica Mountains. The natural environment beyond Los Angeles offers the unmatched resources of the entire state, from uninhabited islands to popular ski resorts.

Travel
Several sorts of travel opportunities are available at UCLA. The ASUCLA Travel Service (see listing in the "student services" section of this Catalog) can arrange charter air fares to many major cities at the lowest possible cost; rail car services are also available.

In addition, several clubs offer charters and tours. Day trips to San Diego or weekend excursions to San Francisco are also popular outings.

Clubs
The clubs and registered organizations on campus provide an added dimension to the UCLA experience. There are clubs for joiners and non-joiners, too, representing almost every interest. And, if your interest isn't covered by a club, you can start your own.

A full listing of registered student organizations is available in the CPO Office, 161 Kerckhoff Hall (telephone 825-7041); clubs centering on sports and recreation are under the University Recreation Association Office, 600 Kerckhoff Hall (telephone 825-3703). Each of these offices can provide you with information on how to join—or start a club at UCLA.

Fraternities and Sororities
Sample costs are discussed in the "housing" section of this Catalog. However, fraternity and sorority life offers those who are part of it more than simply a place to live. Serving as a small, tightly knit community within the larger community of UCLA, each fraternity or sorority house provides a center for academics, athletics and social life.

You can find out more about the fraternities and sororities at UCLA by contacting either the Panhellenic Office (sororities) or the UCLA Interfraternity Council (fraternities) in care of the Dean of Students Office, 2224 Murphy Hall, 405 Hilgard Avenue, Los Angeles, California 90024.

In the past few years, UCLA has witnessed a tremendous upsurge in the popularity of fraternities and sororities—otherwise known as the Greeks—whose members now number more than 3,500. There are 24 fraternities and 18 sororities, each chapter of their respective national organizations. The fraternities are bonded together and overseen by the Interfraternity Council, the sororities by Panhellenic Council, making them the most organized of the living groups.

Student Government
Student Government at UCLA offers a chance for expression that students may be lacking in other parts of their university experience. Why not make an effort to become involved in the decision-making process here?

Students have control of more than $4,000,000 to run over 30 different programs.

Undergraduate student government at UCLA is embarking on the most ambitious legislative session in its history. Remember that the commissions of SLC change frequently and that all programs don't operate at all times. SLC and its officers change every year. Student government officials have considerable flexibility and sizable budgets. In recent years much creativity, innovation and professionalism have been exhibited by SLC.

For more information on undergraduate student government at UCLA, visit room 304, Kerckhoff Hall or telephone 825-7068.

Graduate Student Government
UCLA's Graduate Students Association is the only graduate government in the UC system with a mandatory fee and a separate, fully participating government which shares an equal voice with the Undergraduate Students Association in the governance of ASUCLA.

This organization is predicated on the fact that graduate students should have an important role in student government, not only because their viewpoints are often different, not only because they inject a mature perspective in student deliberations, but because they, too, are students and must share student concerns.

The GSA is governed by a body which acts as a watchdog for all funding of graduate student mandatory fees (including council and programming monies). Among the types of programs funded are community services, departmental publications and council programs (e.g., honorary, symposia and orientation seminars). GSA represents approximately 10,000 graduate students (one-third of the total enrollment at UCLA) which places it well into the middle of all University of California student government in size. GSA is able to claim close representation: no GSA representative represents more than 100 students.

The Graduate Students Association is located in Kerckhoff 301, telephone 825-4584.

The Community Services Commission of the Student Legislative Council also provides service opportunities, mostly off campus. These include the Associated Students Tutorial Project, Consumer Protection Project, Exceptional Children's Tutorial Project, UCLA Freedom Coalition, California Coalition to Bridge the Gap, Community Theater Workshop, and Project Motivation. The Graduate Students Association also runs programs in the community.

Service Projects
If you get satisfaction from helping others, UCLA service groups welcome your participation.

Among these are the Arnold Air Society (Dodd 251, 825-1742), Bruin Bellies (825-3091), Bruin Circle K (824-1313), Bruin Sign Language Club, Phratres (825-3901), Delta Sigma Theta, Omega Sigma Tau (Student Action), Peer Health Counselors (Kerckhoff 312-A, 825-8462), Phi Alpha Theta, Rally Committee (Kerckhoff 129, 825-2168), Theta Kappa Phi, UCLA Anchors (Navy ROTC, 825-9073), UCLA Helpline (825-7464), Panhellenic Council, and Student Conduct Council (825-3871) and Alpha Lambda Delta.

Each of these provides, in some form or another, an opportunity to get involved in service projects.

An Urge to Action
Through its commissions, governing boards—and the people who serve on them—student government at UCLA offers a direct role in decision making at UCLA. Students hold membership on policy groups governing the use of the Registration Fee, ASUCLA Board of Control, Academic Senate and the Board of Regents, to name just a few. Additionally, student activities such as Mardi Gras, participation on student publications, and nearly every other facet of student life is sponsored or organized in some way by student government. Some 40 different committees, in fields ranging from the arts to general university policy offer an opportunity for involvement outside the classroom.

Living groups such as the dormitories as well as many academic departments also encourage student activities. Whether on your dorm floor, or at a meeting of the Board of Regents, you have a voice in the actions which govern their lives at UCLA.

Remember, too, that any community tends to "get the government they deserve."—another way of saying that your participation (or lack of it) can make a difference.

Need to Know More?
"Finders Keepers" has more information about recreation and participation opportunities at UCLA. Reference copies are available through all department, college, school and ASK counselors at the College Library and University Research Library reference desks and at a number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).

At the start of this section, it was indicated that unlike some other sections of this book, specific details covering every available cultural and recreational opportunity available presents an impossible task. Checking daily newspapers, the Daily Bruin, campus bulletin boards or taking a stroll up Bruin Walk will serve to keep you current with what is going on.

admission registration enrollment & student conduct . . .

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 in any of its policies, procedures, or practices; nor does the University, in compliance with the Age Discrimination in Employment Act of 1967 and Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, discriminate against any employees or applicants for employment on the basis of their age or because they are disabled veterans or veterans of the Vietnam era. This non-discrimination policy covers admission, access, and treatment in University programs and activities, and application for and treatment in University employment.

In conformance with University policy and pursuant to Executive Orders 11246 and 11375, Section 503 of the Rehabilitation Act of 1973, and Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, the University of California is an affirmative action/equal opportunity employer.

Inquiries regarding the University's equal opportunity policies may be directed to the Assistant Chancellor, Legal Coordinator, 2135 Murphy Hall, UCLA, or the Director of the Office for Civil Rights, Department of Health, Education & Welfare.

Students may complain of any action which they believe discriminates against them on the ground of race, color, national origin, religion, sex, or handicap, and may contact the Dean of Students, 2224 Murphy Hall, for further information and procedures.

Undergraduate Admission

The admission requirements of the University of California are founded on two basic assumptions: first, that the best assurance of success in the University is shown by high quality of scholarship in previous work, and second, that the study of certain specified subjects will provide students not only sound preparation for the range of University courses but also reasonable freedom in choosing their field of specialization.

Fulfilling the requirements stated below, however, may not necessarily assure admission to the campus of your first choice. On some University of California campuses, limits have had to be set for the enrollment of new students; thus, not everyone who meets the minimum requirements can be admitted. At UCLA, for example, students who are, or who would be, college seniors are discouraged from applying. If additional enrollment restrictions are necessary, sophomores may be restricted.

Admission to Freshman Standing—Residents

An applicant for admission to freshman standing is one who has not enrolled in any college-level institution since graduation from high school (except for a summer session immediately following high school graduation).

The requirements listed below apply to California residents; if you are a non-resident, please see the "special requirements for non-residents" discussion later in this section of the Catalog.

High School Subject Requirements

Courses offered in satisfaction of the following subject requirements must be included on a list submitted to the Director of Admissions of the University by the high school principal, if the school is located in California. This list must have been certified by the principal and then, in turn, have been approved by the Director of Admissions. If the high school is not located in California but is regionally accredited, appropriate courses will be considered acceptable.

A. History—1 Year

This must consist of a 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—3 Years*

*Effective Fall Quarter, 1981, four years of English will be required.

These must be university preparatory courses in English composition and literature.

C. Mathematics—2 Years

These must consist of university preparatory courses in such subjects as algebra, geometry, trigonometry, calculus, elementary functions, matrix algebra, probability, statistics, or courses combining these topics.

D. Laboratory Science—1 Year

This must be a year course in one laboratory science.

E. Foreign Language—2 Years

These must be in one language. Any foreign language with a literature is acceptable.

F. Advanced Course—1 or 2 Years

This must be chosen from one of the following:

1. Mathematics
2. Science
3. Social studies or a foreign language.

Scholarship Requirements

Eligibility for admission is based on a combination of your grade point average in the A-F subject requirements listed above and the scores on either the SAT examination given by the College Entrance Examination Board or the ACT test given by the American College Testing Program. In addition, you are required to submit scores for three achievement tests of the College Entrance Examination Board, which must be taken in the following areas:

1. English composition
2. Mathematics
3. Social studies or a foreign language.

Eligibility Table

The following Eligibility Index Table may be used by California high school graduates and residents to determine their eligibility for freshman admission to the University.

**A-F subjects are listed above, under "high school subject requirements."

If prospective applicants need detailed information about these requirements, they should consult the Undergraduate Admissions Circular or the Undergraduate Admissions and Financial Aid Application Packet available in the Undergraduate Admissions and Relations with Schools Office or in high schools and community colleges. The test results of all applicants will be used for purposes of counseling, placement and, when possible, satisfaction of the Subject A requirement, as well as determining eligibility for admission.

The verbal and mathematics scores on the Scholastic Aptitude Test must be from the same sitting.

For arrangements to take the tests, see below.

Admission by Examination Alone

An applicant who does not meet the scholarship and subject requirements for admission and who has not registered in any college-level institution (except for a summer session immediately following high school graduation) may qualify for admission by examination alone. For admission of non-resident applicants by this method, see "special requirements for non-residents" later in this section.

To qualify, you must achieve high scores in the examinations required of all eligible applicants. Your total score on the Scholastic Aptitude Test must be at least 1100; the scores on the three Achievement Tests must total at least 1650, and your score on each must be at least 500.
Taking the Tests

You can obtain information about the tests or make arrangements for testing by applying to Educational Testing Service, P.O. Box 1025, Berkeley, California 94701, or P.O. Box 592, Princeton, New Jersey 08540, or the American College Testing Program, 555 Capitol Mall Suite 766, Sacramento, California 95814. Your cumulative college record will be regarded as official only if they are received by the Admissions Office directly from these Testing Services.

High School Proficiency Exam

The University of California will accept the Certificates of Proficiency, awarded by the State Department of Education upon successful completion of the California High School Proficiency Examination, in lieu of the regular high school diploma. However, all other University entrance requirements (subject pattern, grades, tests), must be met. The date of graduation on University records will be the date of the certificate. Entrance by CEEB scores will remain an option for the student ineligible on the basis of high school record.

Admission to Advanced Standing—Residents

The University defines an "advanced standing applicant" as a high school graduate who has been a registered student in another college or university or in college-level extension classes other than a summer session immediately following high school graduation. An advanced standing applicant may not disregard the college record and apply for admission as a freshman.

Requirements

As you will see below, the requirements for admission in advanced standing vary according to your high school record. As a nonresident applicant, you must also meet the additional requirements described under "special requirements for non-residents" later in this section. If you have completed less than twelve quarter or semester units of transferable college credit since high school graduation, you must also satisfy the examination requirement for freshman applicants.

The transcript you submit from the last college you attended must show, as a minimum, that you were in good standing. That is, you must have earned a grade-point average of 2.0 or better. If your grade-point average fell below 2.0 at any one college you attended, you may have to meet additional requirements in order to qualify for admission.

Admission by Examination Alone

A nonresident applicant who is not thus eligible for admission and who has not registered in any college or university during the senior year immediately following high school graduation may qualify for admission by examination alone.

The requirements for a nonresident applicant are the same as those for a resident (discussed above) except that the scores on three Achievements Tests must total at least 1725.

Advanced Standing

In addition to the regular admission requirements (see Admission to Advanced Standing Residents) a nonresident applicant for admission to advanced standing must have earned a grade-point average of 2.8 or higher in college subjects attempted and acceptable for transfer credit.

If you did not have at the time of high school graduation an average of 3.4 or higher in courses satisfactory for admission to a college or university in California, the University accepts, usually at full unit value, approved transfer courses completed with satisfactory grades in the public junior colleges of the State. Such transfer courses are limited, however, to a maximum of 70 semester units or 105 quarter units. Individual colleges and schools should be consulted concerning additional credit limitations.

Extension courses taken at an institution other than the University may not necessarily be accepted. The decision regarding their acceptability rests with the Office of Undergraduate Admissions.

In addition, credit may be awarded for having completed with high scores, certain tests of the College Testing Program. These include Advanced Placement Examinations. You should be sure to contact the Admissions Office before taking any examinations to determine whether they are acceptable.

Special Requirements for Non-Residents

The regulations discussed below are designed to admit out-of-state applicants whose standing, as measured by scholastic records, is in the upper half of those who would be eligible under the rules for California residents.

You can find a full definition of residence and non-residence in the "money" section of this Catalog.

Freshman Standing

(See also Requirements for Admission to Freshman Standing for residents, discussed earlier in this section.)

Graduation from High School The acceptability of records from high schools outside California will be determined by the Office of Undergraduate Admissions.

Subject Requirements The same subject pattern as for California residents is required.

Scholarship Requirements You must have maintained a grade-point average of 3.4 or higher in the required high school subjects (grade points are assigned as follows: for each unit of "A", 4 points; "B", 3 points; "C", 2 points; "D", 1 point; "I" no credit, no points). Scholarship Requirement A nonresident applicant must take the same SAT or ACT tests as those required of a resident applicant.

Admission by Proficiency in English

As an applicant from another country whose mother tongue is not English you may be admitted only after demonstrating a command of English sufficient to permit you to profit by instruction in the University. Your knowledge of English will be tested by an examination upon your arrival at the University. Admission of an applicant who fails to pass this examination will be deferred until proficiency in the use of English has been acquired.

The student held for the English as a Second Language Program who fails to take the test on the date specified will not be permitted to register for the quarter for which admission is approved. If you are an applicant from a non-English speaking country you are urged to take the Test of English as a Foreign Language as a preliminary means of testing your ability. Arrangements to take the test may be made by writing directly to TOEFL, Educational Testing Service, P.O. Box 600, Princeton, New Jersey 08540, U.S.A. Results of the test should be forwarded to the University.

Language Credit

As a student from a country where the mother tongue is not English you will be given college credit in your own language and its literature only for courses satisfactorily completed. Such credit will be allowed only for courses taken in your country at college level institutions, or for advanced
level upper division or graduate courses taken in
this University or in another English-speaking
institution of approved standing.

Health Insurance
As a condition of registration, entering foreign stu-
dents, except those in the United States on perma-
nent immigration visas, must acquire at the Student
Health Service: health insurance, tuberculin test,
and/or chest X-ray.

Engineering
A freshman applicant seeking a bachelor’s degree in
engineering, whose entire secondary schooling
was outside the United States, must pass, with
satisfactory scores, the College Entrance Examina-
tion Board Scholastic Aptitude Test (verbal and
mathematics sections) and Achievement Examina-
tions in English composition, physics and advanced
mathematics, before a letter of admission to
engineering can be approved. Any engineering
examination the tests in another country should be made
directly with the Educational Testing Service, P.O.
Box 592, Princeton, New Jersey 08540, U.S.A.
You should request that your scores for the tests be
forwarded to the University.

Applying for Graduate Admission
You may obtain the combined Application for Gra-
duate Admission, Fellowship, and Financial Aid
form in person or by mail from Graduate Admis-
sions, Graduate Division, 1247 Murphy Hall,
University of California, Los Angeles, California
90024, or in full departmental detail for which you wish
to study. The UCLA Information for Graduate Appli-
cants pamphlet is enclosed with the application
form. The pamphlet lists the major fields offered,
the individual departmental requirements and
other pertinent information.
Application for admission to graduate status is
limited to the Fall, Winter, and Spring Quarters of
the regular academic year. For admission limited by
departments to a particular quarter, please consult
the information pamphlet. Enrollment in courses in
the Summer Sessions does not constitute admission
to graduate status.
Applications and supporting papers should be sub-
mitted to Graduate Admissions, Graduate Division,
on or before the following dates:
February 15 for the Fall Quarter
October 1st for the Winter Quarter
December 30 for the Spring Quarter
Earlier application deadlines are required for cer-
tain departments, and these are stated in the in-
formation pamphlet.

Application Materials
The following materials should accompany the
application:
1. Application fee of $20 (nonrefundable), by check
or money order payable to the Regents of the
University of California, drawn on a United States
bank.
2. Official transcripts of record, in duplicate, from
each college or university at which the applicant has
completed work. (Transcripts should accompany
or immediately follow the application and are non-
returnable.) One set of transcripts will become a
part of the permanent UCLA file, and the other set
will be sent to the major department to assist in
the evaluation of your past record and for advisory
purposes regarding graduate studies at UCLA. If
you have graduated from UCLA or from another
University of California campus and have there
completed your last two years of study for the
bachelor’s degree and any post-baccalaureate work,
transcripts are requested from only that campus.
For detailed information see UCLA Information for
Graduate Applicants sent with the application form.

Financial Aid
If you are requesting a fellowship or other financial
assistance, you should check the proper entry on
the Application for Graduate Admission, Fellowship,
and Financial Aid. Foreign students holding F-1 or
other temporary visas are not eligible during their
first year of study. Financial aid is fully discussed in
the "Money" section of this Catalog.

Application Review and Notice of
Admission
Graduate Admissions screens all applications to
determine whether or not they meet University
minimum requirements for graduate status.
Ordinarily, only the applications of those students
who have fulfilled at least the minimum require-
ments are then referred to the department. There
they are subjected to a more specific and intensive
review. Although, at this stage, departments may
choose to make contact with applicants, Graduate
Admissions alone is empowered to make the formal
offer of admission, taking the departmental recom-
mendation into due consideration.
Graduate Admissions sends instructions on
required registration procedures to admitted appli-
cants with the formal notification of admission.

Applicants who are offered admission with work in
progress are reminded that admission is contingent
upon receipt of evidence of satisfactory completion
of this work, and a statement of award of degrees.

Graduate Record Examination
As an additional means of evaluating the qualifica-
tions of applicants, a number of departments and
schools include the nationally standardized Gradu-
ate Record Examination among criteria for judg-
ment.
Even though an application may be considered
complete in the Graduate Admissions Office,
departments requiring the GRE will not make a
recommendation prior to receipt of the score re-
ports. The departmental requirements are listed in
the UCLA Information for Graduate Applicants
pamphlet.
Applications for the information concerning the
Graduate Record Examination (GRE) may be
obtained from offices of the Educational Testing
Service, either at Box 995, Princeton, New Jersey
08540, or at 1947 Center Street, Berkeley, California
94704. Applicants should write to the address
which is closest to their home. GRE scores should
be directed to the department as the Graduate Admis-
sions Office has no provision for forwarding
these scores.
U.S. students who will be seniors in 1979-80, who
are receiving financial aid at an undergraduate
institution, and whose estimated parental contribu-
tion is calculated at zero are eligible to apply for
GRE Fee Waivers. For additional information on
the GRE Fee Waiver, write to the Associate Program
Director, Educational Testing Service, Princeton,
New Jersey 08540.

1979-80 GRE Test Dates
October 20, 1979
December 8, 1979
January 12, 1980
April 26, 1980
June 14, 1980

APTITUDE ONLY:
February 23, 1980

It is strongly urged that all nationally administered
tests be taken by February but not later than April.

Letters of Recommendation
Though letters of recommendation are not a Gradu-
ate Division requirement, most graduate profes-
sional schools, departments and interdepartmental
programs require applicants to submit three letters
of recommendation attesting to the ability of the
applicant to succeed in graduate study. The letters
are typically used to augment, validate or explain
the information provided on the formal application,
Statement of Purpose, and/or essay. For some appli-
cants, the information provided in these letters will
mean the difference between acceptance and rejec-
tion. If letters of recommendation are required (see
Consult UCLA Information for Graduate Applicants
pamphlet), you may obtain the booklet Graduate
School: A Student Guide to Obtaining Letters of Recom-
mandation, from Student Services and Development
Office, 1172 Placement and Career Planning
Center.

Foreign Applicants
The requirements and application dates are the
same for foreign applicants and U.S. applicants (see
above). Because the evaluation of foreign creden-
cials may take considerable time, if you are
an applicant with credentials from institutions in
other countries, you are advised to submit
applications at least four to six months before the
date in which you wish to be considered for
admission.
Foreign applicants should submit official
transcripts of record, in duplicate, for all college and
university work. College and university transcripts
must show subjects studied, examination grades
achieved, and award of degrees. If photocopies are

submitted rather than original documents, they must bear the signature of the college or university registrar. Specific instructions are given in the information pamphlet for admission requirements. Informations concerning the TOEFL and scores on it are published in the Statement of Educational Policy, which is distributed to high schools throughout the world by the Educational Testing Service, Princeton, New Jersey 08540, for the benefit of students and their parents. The TOEFL is a standard test of general English proficiency which may not be retaken once scored. If you believe you need to retake the test, you should do so before you apply to UCLA.

TOEFL admission requirements are described in the Admission, Registration, Enrollment, and Student Conduct section of the UCLA catalog. Applicants are required to pass the TOEFL examination at a level of 90 or higher. Applicants who meet this requirement also need to complete a graduate application and submit scores from the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT) as required by the graduate program.

A student who is accepted into a graduate program at UCLA but was not able to take the TOEFL examination at the time of application may be exempted from this requirement by submitting a request to the Office of International Students and Scholars. Students who were unable to take the TOEFL examination prior to admission may be required to take it after arrival in the U.S. Undergraduate students currently registered on any campus of the University of California who have not since registered at any other school may apply for transfer to another campus by filing a Transfer Application on their present campus. Undergraduate students currently registered on any campus of the University of California, Los Angeles, and their successors who are transferred for a semester or a quarter at a later date than the admission deadline for the indicated quarter, must have met all UCLA graduation requirements, which may include passing the TOEFL examination. If you are in this situation, you should contact the Office of International Students and Scholars for additional information.

Admission to Concurrent Degree Programs

In addition to the programs offered in the School of Medicine, the School of Dentistry, and the School of Law, there are also concurrent degree programs at UCLA. Concurrent degree programs allow you to pursue two degrees simultaneously, which can be especially beneficial if you are interested in pursuing a career in the medical or legal fields. You should consult the respective departments for more information about the specific requirements and application process for these programs.

Proponents of concurrent degree programs believe that they can enhance students' educational experience and prepare them for their future careers. They argue that concurrent degree programs can help students gain a broader perspective and develop stronger critical thinking skills. However, it is important to note that concurrent degree programs can also be challenging, as students are required to manage multiple courses and requirements simultaneously.

All applicants for a second academic graduate degree at UCLA who are enrolled in a concurrent degree program must meet the same criteria as those enrolled in a single degree program. This includes meeting the same admission requirements, completing the same coursework, and satisfying the same degree requirements. If you are interested in pursuing a concurrent degree program, you should contact the respective departments for more information about the specific requirements and application process for these programs.
Undergraduate

Undergraduate students may obtain application forms from the Office of the Registrar, Window A, Murphy Hall. The completed application along with a $50 application fee (nonrefundable) and transcripts of records from other institutions, including University Extension, attended during their absence must be filed with the Registrar on or before August 1 for the Fall Quarter, November 15 for the Winter Quarter, February 15 for the Spring Quarter.

Graduate

If you have been registered at any time in graduate status at UCLA and wish to return after an absence, you should file a Graduate Application for readmission. Forms for this purpose may be obtained by mail or in person from Graduation Admissions, 1247 Murphy Hall, and are submitted to that office. Filing dates are the same as those for original applications for admission to graduate status. Since some schools and departments permit readmission only in specified quarters or may stipulate earlier application deadlines, you should consult your chosen department.

Applications for readmission should be accompanied by:
1. Application fee of $20 (nonrefundable), with a check or money order payable to the Regents of the University of California.
2. Official transcripts of record, in duplicate, for all college and university work (including University Extension courses) completed since last registration at UCLA.

Formal application for readmission is not required of a student returning from an official leave of absence.

Registration

Registration is the payment of fees, enrollment in courses, and the filing of various international documents. You must be registered at UCLA for all classes you intend to take. If you are not enrolled or registered in a Summer Session, a fee of $2 is charged for the record of work taken at UCLA in either regular or Extension courses) completed since last
enrollment.

Failure to complete and file all forms by established deadlines may delay or even prevent you from receiving credit for work undertaken. Registration is divided into two equal, but separate processes. Registration materials (the "registration packet") are issued by the Registrar and include cards for payment of the yearly fees and a study list card for requesting enrollment in classes. When both processes are completed, you are considered a duly registered and enrolled student for the quarter.

Registration by Mail

In advance of the quarter, the registration processes may be completed entirely through the mail. All eligible students are encouraged to register by mail. Currently registered students may obtain their "registration packet" at the time approximately the fifth week of the preceding quarter and place announced in the campus newspaper, the Daily Bruin, and on official campus bulletin boards. New and re-entering students eligible to register by mail (see calendar) will receive the "registration packet" in the mail from the Registrar approximately six weeks before the quarter begins. Complete instructions and envelopes for return of the cards are included with the registration materials. Each student is responsible for purchasing the quarterly Schedule of Classes, available in the Students' Store on campus.

The Registrar and the Main Cashier process enrollment and payment separately—date of payment is the same as the date on the "registration packet"—as published in the Schedule of Classes. At the completion of the by-mail process, materials are returned to all students who participated. Students who requested enrollment will receive the results of the enrollment process (sections in Classes) by mail. In classes which students paid quarterly fees will receive the valid Registration Card (proof of student status for University services). These separate mailings are made approximately ten days prior to the beginning of the quarter.

In Person

At the beginning of the quarter, in-person processing of fee payment and enrollment in classes is available for all students not processed by mail. Dates and location of registration in person processing are announced in the Schedule of Classes. The "registration circular" is the Daily Bruin, and on official campus bulletin boards. Students eligible to register by mail are not issued specific times for registration in person, but are advised to observe the registration time recommended in the Registrar's publications. By observing this suggested time schedule for registering in person, you can complete the registration procedure with a minimal delay. New and re-entering students processed for registration in person will be issued an appointment at the Registrar's office (admitting or re-admitting) officer upon receipt of their Statement of Intention to Register and accompanying forms. The Appointment will indicate the date, time, and location that the Registrar will be prepared to issue individualized materials for your registration process. If fees are not paid by that date, all course enrollment is dropped.

Any student allowed to register on or after the first day of instruction is subject to a late fee and may require permission of the dean and the student must register and pay the fee by the Friday before instruction begins. If fees are not paid by that date, all course enrollment is dropped.

Continuous Registration

Unless granted a formal leave of absence, graduate students are expected to register every quarter, including the quarter in which the degree is expected. The certificate is to be awarded. If you have completed all requirements for the degree except the filing of the thesis or dissertation and/or the formal final examination (master's comprehensive examination or doctoral final oral examination) you may pay the filing fee of $62 instead of registering.

To be eligible to take final examinations, file theses, or dissertations, or receive degrees during the summer, you must pay the filing fee unless you are registered in a Summer Session.

The Filing Fee is discussed fully in the "money" section of this Catalog.

Graduate Student Leave of Absence

On recommendation of your department, a leave of absence may be granted by the Graduate Division to continuing graduate students in good standing who have completed one quarter in graduate status at UCLA. "Request for a Leave of Absence" forms are available at the Student and Academic Affairs Section of the Graduate Division, 1225 Murphy Hall. If registration fees have been paid for the quarter in which the leave is to begin, a percentage of the fees paid is refunded according to the calendar date on which the approved leave request is submitted to the Graduate Division. All leaves must be renewed by written request before the end of each quarter. Deadlines are published in the academic calendar the beginning of this catalog and the quarterly Schedule of Classes.
A leave is normally granted for a period of up to one year. Leaves may be extended for a total of five years at the request of the student and on the recommendation of the department involved. Students wishing to return to their graduate studies after a period of absence must apply for readmission to the Graduate Division. If you can demonstrate that the process of applying for annual renewals of the leave would be excessively difficult, the Graduate Division, upon the recommendation of your department, may grant a leave of absence for a period of more than one year, but not for a period of more than five years.

Chairs of doctoral committees will be asked by the Graduate Division to verify that students applying for leaves of absence are not using University facilities or faculty time while on leave. If you are granted a leave for any period of time you may not keep an appointment to any apprentice teaching or research title, may not make use of University facilities, and may not place demands upon the faculty during your leave. Furthermore, the granting of a leave of absence does not automatically relieve you from meeting the requirements for the degree as they exist when you return to campus.

Application for a leave of absence to accept University employment must be accompanied by a letter from the department chairperson or other employing officer elaborating the reasons for which the leave is requested. In supporting such a request, the employing officer should indicate that such employment is essential to its program, that the departmental need results from an unforeseen circumstance, and that the employment is for a specified and limited period of time.

If you are granted a leave of absence you must notify the Dean of your College, School or Graduate Division of your intention to return to the campus and file all required forms no less than six weeks prior to the registration period for the quarter in which you plan to resume your studies.

A request for extension of a leave of absence should be addressed in writing to the Student and Academic Affairs Section, Graduate Division, which will send you an extension of leave request form.

Enrollment
A student’s name is entered on official rolls of the University only after the registration process is completed. The quarterly publication is known as the Schedule of Classes. This quarterly publication is available in June for the Fall Quarter, in November for Winter Quarter and in February for Spring Quarter at the Students’ Store, Ackerman Union. It is also available by mail; write to attn: Mail Out, ASCLA Students’ Store, 308 Westwood Plaza, Los Angeles, California 90024; include $1 in check or money order, payable to ASCLA.

The Schedule lists courses, final examination groups, names of instructors, class times and meeting locations, a detailed calendar of deadlines, enrollment restrictions, and full instructions for registration (payment of fees and enrollment in classes). From the Schedule and with the aid of academic counseling, you can assemble a program of courses. Two or three alternate programs should be planned in case your first choice of courses is not available. You may not choose two courses in the same examination group and should not choose classes which conflict in the class meeting times. If conflicts are unavoidable, you should consult with the instructor of each course at the first meeting of the class.

Enrollment requests are processed by the Registrar’s Office from the completed Study List Card containing the registration “packet” issued to each prospective student.

All continuing students (who are eligible to register in the same status without filing applications for readmission) have the opportunity and are encouraged to request their classes by mail.

New and re-entering students who have completed the admission/readmission process by the eligibility date to register by mail (see calendar) will receive registration materials from the Registrar approximately six weeks prior to the beginning of their first quarter.

Results of enrollment by mail are printed on a Tentative Study List mailed by the Registrar approximately ten days prior to the beginning of the quarter.

For the convenience of undergraduates who wish to enroll in person at computer terminals, an appointment to enroll is printed on the tentative study list. This appointment should be kept only if you want to make changes in enrollment. Students who did not participate in the by mail process and those eligible for in person processing will receive an enrollment appointment time as a part of the registration (fee payment) process.

All graduate students enroll by filing the Study List Card by the third day of instruction with their major department or school after it has been approved by their adviser.

Study List
Your Official Study List is the list of courses in which you are officially enrolled at the end of the second week of classes, at which time a copy is mailed to you. You are responsible for every course listed, and can receive no credit for courses not entered on it. Unapproved withdrawal from or neglect of a course entered on the study list will result in a failing grade.

Changes in the Official Study List require approval of the Dean of your College, School or Graduate Division. Forms for this purpose may be obtained at the office of your dean or major department. The approved petition must be filed with the Registrar. There is a fee for such changes. See the academic calendar at the beginning of this catalog for the last day to add or drop courses or change grading basis.

Study List Limits: Undergraduates
The minimal program for an undergraduate student to be considered full-time is three courses (12 units).

The normal program for an undergraduate student is four courses. A student on scholastic probation, except in the School of Engineering and Applied Science, is limited to a program of three courses each quarter.

For students in good academic standing, undergraduate study lists may be presented as follows:

- School of Engineering and Applied Science: within the limits prescribed in each individual case by the Dean or his representative.
- College of Fine Arts: three or four courses per quarter without petition. After the first quarter, you may petition to carry a program of not more than five courses if in the preceding term you attained at least a "B" average in a program of at least three courses included in the grade-point average.
- College of Letters and Science: three courses for students in the first quarter of the freshman year. All other students who have a "C" average or better and are not on probation may carry four courses without petition. After the first quarter, you may petition to enroll in as many as five courses if in the preceding term you attained at least a "B" average in a program of at least three courses included in the grade-point average. First-quarter transfer students from any other campus of the University may enroll in the amounts prescribed in the limits on students who have completed one or more terms on the Los Angeles campus.

School of Nursing: three courses. You must petition to enroll in more.

Any course, such as Mathematics M or Music 4, which does not give full credit toward a degree, nevertheless displaces one course from your program. These courses are identified in the Schedule of Classes. All military science, and all repeated courses are to be counted in study list limits.

Study List Limits: Graduate Students
You can find a discussion of study list limits for graduate students in the "academics: graduate education" section of this Catalog.

Concurrent Enrollment
Concurrent enrollment in resident courses and in courses in University Extension or another institution is permitted only when your entire program has received the approval of the proper dean or special-study officer and has been filed with the Registrar before the work is undertaken.

Special Studies 199 Courses
Senate regulations limit the undergraduate student to two courses (8 units) of credit per quarter in special studies (199 courses). The total number of units allowed in such courses for a letter grade is 16. A separate petition is required for each enrollment in a special studies 199 course.

Credit by Examination
A student who has completed a minimum of 12 units of work at this University and is in good standing may petition to receive credit by examination in a course regularly offered by the University. You must satisfy conditions stated on the petition and make arrangement with the instructor who will give the examination and with the Dean of your College or School, from whom the required petition form may be secured. There is a $5.00 fee for each petition.

The results of such examinations are entered upon your record in the same manner as regular courses.

About Student Conduct
Most of this Catalog is devoted to the academic regulations which govern membership in the UCLA Community. But, in addition to these, your conduct as a student is also subject to standards of behavior consistent with the role that UCLA as an institution dedicated to the pursuit of knowledge.

Just as you are subject to the provisions of the California Criminal Code regardless of whether or not you are aware of each statute it contains, so, too, are you responsible for the standards published in the University of California Policies Applying to Campus Activities, Organizations, and Students (Parts A and B) and UCLA Activity Guidelines — and to the standards of conduct spelled out in these books.

You can get a copy of each of these by contacting the appropriate campus and/or activities office.

Graduate Student Complaints
Because of the separation of functions within the University, it is sometimes unclear to students where they should direct their complaints. The following information may be helpful in advising students who wish to do so:

- Scholarly complaints: Submit to the appropriate divisional dean; the Dean of the Graduate Division, 1237 Murphy Hall, or to the appropriate dean in the School concerned.

- Academic complaints: Submit to the appropriate divisional dean.

- Personal conduct: Submit to the appropriate divisional dean.

- General complaints: Submit to the appropriate divisional dean and the Chancellor.

Since UCLA is large and diversified, the UCLA Daily Bruin is another source of general information. "Official Notices" run twice a week (Monday and Thursday), and you are held responsible for the information in them.
A graduate student or a group of graduate students wishing to lodge a complaint of misconduct against another student or group of students, should go to the Office of the Dean of Students, 2224 Murphy Hall.

Graduate students who wish to make complaints concerning alleged violation of the policies and regulations governing graduate study, should see the Associate Dean, Student and Academic Affairs Section, Graduate Division, 1225 Murphy Hall.

Disclosure of Student Records

Pursuant to the Federal Family Educational Rights and Privacy Act of 1974 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 receive records pertaining to themselves in their capacity as students, except as the right may be waived or qualified under the Federal Act and the University Policy; 2) have withheld from disclosure, absent their prior consent for release, personally identifiable information from their student records, except as provided by the Federal Act 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; 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 Act and the University Policies may be maintained in a wide variety of offices. Students are referred to the Office of the Registrar, 1101 Murphy Hall, 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 Federal Act and the University Policies.

A copy of the Federal Act, the University Policies and the UCLA Directory may be inspected in, and information concerning these matters and the student's records may be obtained from the Office of Assistant Chancellor-Legal Coordinator, 2248 Murphy Hall.

Change of Address/Name

The Registrar should be notified as soon as possible of any change in address that occurs after the return of the student data card (from the registration packet). Forms for this purpose are available at the Registrar's Office, Information Window "A", or 1134 Murphy Hall. Veterans receiving benefits must also notify the Office of Special Services.

In case of change of name, forms available at the Registrar's Office, Information Window "A", should be filed before the beginning of the next quarter. Since changes require approximately three months to be processed, you should continue to use your former name until notified that the records reflect the change.

Need to Know More?

You will find a full discussion of academic regulations as they relate to your specific program in the sections of this catalog concerned with graduate and undergraduate education.

Courses

The following symbols are used in the departmental faculty rosters and course listings.

Faculty Roster Symbols

1. In Residence summer only.
2. In Residence fall only.
3. In Residence winter only.
4. In Residence spring only.
5. On leave summer.
6. On leave fall.
7. On leave winter.
8. On leave spring.
9. On leave summer and fall.
10. On leave fall and winter.
11. On leave fall and spring.
12. On leave winter and spring.
13. On leave spring and summer.
15. Recalled to active service.
16. Member of Brain Research Institute.
17. Member of the Institute of Geophysics and Planetary Physics.
18. Joint Appointment.

Course Listing Symbols

- Given in alternate years, not offered 1979-1980.
- Offered as schedule and staff allow.
- Not offered every year.
- Given alternate years; offered 1979-1980.
- Offered Fall 1979 only.
- Offered Winter 1980 only.
- Offered Spring 1980 only.
- Offered on request depending upon enrollment.
- Consult department for details.
- Not applicable to M.A. degree.
- Native speakers not normally eligible.
- A and B offered in alternate years.
- Enrollment is limited. Consult Office of Undergraduate Affairs.
- Determined on basis of change in course content.
- Only course C to be offered.
- Courses A and B to be offered.
- Open only to Engineering Executive Program students.
- Not offered Fall, 1979.
- Not offered Winter, 1980.
- Not offered Spring, 1980.

Undergraduate Courses

Undergraduate courses are classified as lower division and upper division. Lower division courses (numbered 1-99) are open to freshmen and sophomores, and are also open to upper division students but without upper division credit. Upper division courses (numbered 100-199) are ordinarily open to students who have completed at least one lower division course in the given subject, or two years of college work. Courses in the 100 series may be offered in partial satisfaction of the requirements for the master's degree by a student registered in graduate status if taken with the approval of the major department.

Courses number 198 are structured special studies courses for groups. They are not listed in the catalog because they vary in content and are offered irregularly.

Graduate Courses

Graduate courses (numbered 200-299) are ordinarily open to students admitted in graduate status. As a condition for enrollment in a graduate course you must submit to the instructor in charge of the course evidence of satisfactory preparation for the work proposed.

University Extension Courses

University of California Extension courses bearing numbers 1-199, prefixed by X, DX, XD, XL, XR, XSB, XSC, XSS, XSD yield credit toward the bachelor's degree. They are rated with respect to the general and specific requirements for the degree, on the same basis as courses taken in residence at collegiate institutions of approved standing. Concurrent enrollment in resident courses and in University Extension courses for courses at another institution taken with a view to credit toward a degree is permitted only when the entire program has been approved in advance by the Dean of the Student's College.

Professional Courses

Teacher-training courses (numbered 300-399) are highly specialized courses dealing with methods of teaching, and are acceptable toward the bachelor's degree only within the limitations prescribed by the various colleges or schools. Courses in this series do not yield credit toward a higher degree.

University Extension Courses

University of California Extension courses bearing numbers 1-199, prefixed by X, DX, XD, XL, XR, XSB, XSC, XSS, XSD yield credit toward the bachelor's degree. They are rated with respect to the general and specific requirements for the degree, on the same basis as courses taken in residence at collegiate institutions of approved standing. Concurrent enrollment in resident courses and in University Extension courses for courses at another institution taken with a view to credit toward a degree is permitted only when the entire program has been approved in advance by the Dean of the Student's College.

Course Listings

Each course in the following listings by department, as in the samples that follow, has the credit value of a full course unless otherwise noted. Thus a listing, Mathematics 11A-11B-11C, Calculus and Analytic Geometry., indicates three full courses, 11A, 11B, and 11C; while a listing, Dance, 11A-11B, indicates six half courses, 11A, 11B, 11C, 11D, 11E, and 11F. Some courses have a variable value; for example, Management 596A-596N, Research in Management, (6 to 2 courses), where within the limits indicated, the exact value of the course is fixed for each individual student when he enrolls.

Where noted, credit for a specific course is dependent upon completion of a subsequent course. A capital "M" before the initial number of a course indicates multiple course listings in two or more different departments.
AEROSPACE STUDIES

(Department Office, 251 Dodd Hall)

Air Force Office of Scientific Research

Richard T. Cox, M.Ed., Assistant Professor of Aerospace Studies

John C. Croston, M.B.A., Captain, Assistant Professor of Aerospace Studies

Air Force Reserve Officers Training Corps (Air Force ROTC)

Air Force ROTC provides selected students the opportunity to develop those attributes essential to their progressive advancement to positions of high responsibility as commissioned officers in the U.S. Air Force. This includes 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.

Scholarship Program

Scholarships are available to qualified cadets in both the four-year and two-year programs. Scholarships cover full tuition, laboratory expenses, incidental fees, allowances for books, and a stipend of $100.00 per month.

Fourth-Year Program

The fourth-year program is open to beginning freshmen. It consists of a two-year General Military Course (GMC), described below, followed by a two-year Professional Officer Course (POC), described under "Two-Year Program."

Leadership Laboratory

All Air Force ROTC students must enroll each semester in the Leadership Laboratory as described in the U.S. Air Force Reserve Officers Training Corps (Air Force ROTC) Manual. It consists of an initial two-year General Military Course (GMC), prerequisite, described below, followed by a two-year Professional Officer Course (POC), described under "Two-Year Program."

Freshman Year

1A-1B-IC. U.S. Military Forces in the Contemporary World. (Course each) Prerequisite: 1A is prerequisite to 1B and 1B is prerequisite to 1C. This sequence of courses examines the role of the U.S. Air Force in the contemporary world by studying the total force structure, strategic offensive and defensive forces, general purpose forces, and air space support forces.

Lt. Col. Hagler

Sophomore Year

20A-20B-20C. The Developmental Growth of Air Power. (Course each) Lecture-seminar, one hour. Prerequisite: 1A is prerequisite to 1B and 1B is prerequisite to 1C. This sequence of courses examines the developmental growth 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.

The Staff

Two-Year Program

The two-year Air Force ROTC program is offered to accommodate those students who have attained at least junior standing and have two years remaining in the University, either as an undergraduate or graduate student. A prerequisite for students entering the program is successful completion of a six-week field training course on an Air Force base during the summer preceding their enrollment in the program.

Students interested in this program must make application 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, travel expenses, and are paid approximately $580.00. Students enrolled in the POC receive $100.00 per month retainer fee for 20 consecutive months.

Data concerning physical and age qualifications for flying and navigator training and for nonflying applicants is the same as for four-year program.

Four-Week Field Training Course

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, travel expenses, and are paid about $390.00 to cover incidental expenses. Subjects covered at field training include junior officer training, aircrews, and aircraft orientation, career orientation, survival training, base functions, Air Force environment, and physical training.

Field Training Course Staff

130A-130B-130C. Concepts of Air Force Management and Leadership. (Course each) Lecture-seminar, three hours. Prerequisite: 130A is prerequisite to 130B and 130B is prerequisite to 130C. This is a three part course. An analysis of the principles and functions of management, leadership and organizational behavior with special reference to the Air Force. The course 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.

Lt. Col. Olson

140A. Military Judicial System. (Course) Seminar, three hours. Prerequisite: course 130C. An introduction to the foundation of the military judicial system, and the structure, organization, working techniques are strengthened and communicative abilities are oriented to Air Force requirements through preparation of papers, courtroom presentations and discussion.

Capt. Dineen

140B. The Military in American Society. (Course) Seminar, three hours. Prerequisite: course 140A. The role of the military in American society is studied through analysis of the factors that affect the functioning of the U.S. military. Influence of social norms, societal pressures and cultural factors on the functioning of the military profession in the United States is analyzed. Communication techniques are strengthened and communicative abilities are oriented to Air Force requirements through preparation of papers, courtroom presentations and discussion.

Capt. Dineen

140C. American Defense Policy. (Course) Seminar, three hours. Prerequisite: course 140B. Examines U.S. security policy with respect to factors that influence its formulation, the bureaucracy that formulates and implements it, and the forms it takes and may take in the future. Communication techniques are strengthened, and communicative abilities are oriented to Air Force requirements through preparation of papers and classroom presentation and discussion.

Capt. Dineen

AFRICAN AREA STUDIES (INTERDEPARTMENTAL)

Special Program in African Studies

For details of the program in African Studies taken in conjunction with a major or minor field, see Inter-disciplinary Majors in Area Studies.

Master of Arts in African Studies

The Master of Arts in African Studies is administered by an Interdepartmental Committee. Members of this Committee are: Michael F. Lochtie (Political Science) Chairman; Jacques Maquet (Anthropology); D.S. Hollis (Political Science); Frederick Kintzer (Economics); Christopher Ehr (History); Derrick Jelliffe (Public Health); Gerry Hale (Geography); Richard L. Sklar (Political Science); Russell Schuh (Linguistics).

The program for the Master of Arts in African Area Studies is designed to provide interdisciplinary training in the African area. It thus provides the student an opportunity to concentrate his work on the African area through a variety of disciplinary perspectives. The M.A. program also furnishes an approach to doctoral work related to Africa. Students gain exposure to several disciplines before deciding upon the one most closely suited to their interests and capabilities. The degree is intended to (a) allow entering graduate students interested in Africa to gain an in-depth knowledge of this world area and (b) give a seminar and minor field concentration to the students of interests within specific academic disciplines. The Center gives new emphasis to the arts and humanities in relation to Africa, and it is now possible to concentrate on these subjects within the framework of the Master of Arts in African Studies.

For example, such subjects as African Literature in French or English, Ethnomusicology and traditional African Art may be combined with background studies in one or more social sciences to produce an intellectual synthesis. Students may also choose as one of their areas of specialization courses in Education, Public Health and Urban Planners.

A doctor's degree in African Studies is not offered. Students interested in pursuing doctoral programs with an emphasis on Africa should write directly to the department in which they are interested.

Admission to the M.A. Program

In addition to meeting the requirements of the Graduate Division, the student must have adequate preparation in undergraduate works related to the program. Required preparation for the Master's degree in African Area Studies is a degree of Bachelor of Arts in the social sciences or arts and humanities. The program permits between three and two years to complete, depending upon the student's preparation and the courses selected.

Requirements for the Master's Degree

General Requirements: See the Graduate Division.

The M.A.A.S. program requires that a student demonstrate proficiency in an African language. The student may satisfy this language requirement in one of the following ways: (a) Complete an advanced course in an African language (20A-20B-20C); (b) Pass a Linguistic Department examination in the African language not regularly offered; (c) Prove that the student is a native speaker of an African language; (d) Prove that the student has a Foreign Service Institute rating of 3 or above in an African language.

Students whose first language is other than English may petition the Graduate Advisor for a waiver of the language requirement.

Course of Study. A minimum of nine courses dealing with Africa in at least three disciplines. Of these, five or more must be at the graduate level (200 series). A student in the M.A. Program must offer a major and a minor field. Major field concentration is defined as a minimum of four courses, of which two must be at the graduate level; minor field concentration is defined as a minimum of two courses, at least one of which must be at the graduate level. A student may, with the consent of the graduate advisor, offer methodology courses or contrastive courses for purposes of completing his major or minor fields of concentration. The student will be held responsible for both the major and minor fields in his final examination sequence for the M.A. degree. As a third discipline, a student may offer a minimum of four courses at the graduate level (200 series).

Course Limitations: (1) No more than one independent graduate study course (596) may apply toward the minimum of nine courses required for the M.A. degree, except by permission of the Graduate Advisor; a second 596, when permitted, may not be applied toward the minimum of five graduate courses required for the degree; (2) No more than

NOTE: For key to symbols, see page 74
one course graded on an S/U basis may be counted toward the minimum of nine courses required for the M.A. degree, except by permission of the Graduate Advisor.

Qualifying Examination: Students must pass a written comprehensive qualifying examination in the major and minor disciplines. This examination must be prepared and graded by a committee consisting of at least three faculty members at least two of whom are in the student's major department. It is the student's responsibility to make arrangements for this examination with faculty members in the appropriate department. Students should have these arrangements completed by the middle of their second quarter in residence. Any student who fails the written examination will be allowed to retake it only with the written consent of the graduate adviser and major field examiners.

Oral Examination: The normal presumption is that an oral examination will be held. This oral examination may be waived if, in the view of the qualifying examination committee, it would be unnecessary.

The following courses pertaining to Africa are offered by the departments listed. With the approval of the Committee, other related courses may be included in a student's program.

**Anthropology**
- 107A-107B. Introduction to African Societies and Modes of Thought.
- 109. Old Stone Age Archaeology.
- 111A-111B. Fossil Man and His Culture.
- 112. Hunting and Gathering Societies.
- 113. Civilizations of Sub-Saharan Africa.

**Art**
- 118C. The Arts of Sub-Saharan Africa.
- 119A. Advanced Studies in African Art: Western Africa.
- 216. Topics in African Art.
- 220. The Arts of Africa, Oceania and Pre-Columbian America.

**Dance**
- 140A. Dance of Africa.
- 171B. Dance of Ghana.

**Economics**
- 111. Theories of Economic Growth and Development.

**Education**
- 240A. Topics and Issues in International and Comparative Education.
- 204B. Introduction to Comparative Education.
- 204C. Education and National Development.
- 207. Politics of International Education.
- 253A. Current Problems in Comparative Education.
- 253B. Seminar: African Education.
- 253F. Education in Revolutionary Societies.

**English**
- 114. World Literatures in English.
- 270. Language Policy in Developing Countries.

**French**
- 121A. Franco-African Literature.
- 221C. French-African Literature of Berber-Sudanese and Arab-Islamic Africa.

**Geography**
- 122. Man and Environment in East Africa.
- 189. Middle and Southern Africa.
- 288. Seminar in Regional Geography: Northern Africa.
- 289. Middle and Southern Africa.

**Germanic Languages**
- 101B. Elementary Afrikaans.

**History**
- 142A-142B. The British Empire Since 1783.

**Music**
- 143A-143B. Music of Africa.

**Near Eastern Languages**
- 103A-103B-103C. Advanced Arabic.

**Politics**
- 161. Development Anthropology.

**Social Sciences**
- 111. Human Disease and Public Health.

**Sociology**
ANATOMY

(Department Office, 73-235 Health Sciences Center)

George W. Bernard, D.D.S., Ph.D., Professor of Dentistry and Oral Biology
P. Dean Buk, Ph.D., Professor of Anatomy.

16A Afternoon, 4 B-213A, 213B. Techniques of Demographic and Ethnographic Film.

213A-213B. Selected Problems in the Sociology of Africa.

16A-B. Techniques of Demographic and Ethnographic Film.

Anatomy (Department Office, 73-235 Health Sciences Center)

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213A-213B. Selected Problems in the Sociology of Africa.

16A-B. Techniques of Demographic and Ethnographic Film.
passive networks, operational amplifiers, semiconductor theory, digital logic, waveform generation, signal conditioning, data acquisition methods and neurophysiological instrumentation systems. S/U grades only. Consent of Mr. E. E. Estin.

209. Fine Structure and Function in the Central Nervous System. (% course) Two one-hour sessions per week in the fall quarter of even-numbered calendar years. Prerequisite: Basic Neurophysiology. Lecture on the fine structural and functional aspects of the central nervous system, together with related electrical and biochemical phenomena of activity. Mr. Schiebel

210A-210B, Inflammatory Components in Neoplasia and Immunity. (% course) One two-hour session per week in the fall in the spring quarter only of even-numbered calendar years. Prerequisite: Anatomy 101, Pathology 102 or consent of the instructor. Two one-hour sessions per week in the winter quarter. Prerequisite: consent of the instructor(s). Fall quarter sessions will consist of one-hour lectures on the various components of inflammation and other non-specific systems and their interaction with neurological and specific immune phenomena. Current research literature will be discussed during the second hour. The winter quarter sessions will consist of presentations by invited guests involved in research in the specialty areas covered in the fall quarter. Organized discussions will follow these presentations. Mr. Lemni and the Staff

211. Anatomical and Physiological Substrates of Behavior. (% course) Two one-hour sessions per week in the fall quarter. Prerequisite: Anatomy 101, Pathology 102. Two one-hour sessions per week in the fall quarter. Prerequisite: consent of the instructor(s). Fall quarter sessions will consist of one-hour lectures on the various components of inflammation and other non-specific systems and their interaction with neurological and specific immune phenomena. Current research literature will be discussed during the second hour. The winter quarter sessions will consist of presentations by invited guests involved in research in the specialty areas covered in the fall quarter. Organized discussions will follow these presentations. Mr. Lemni and the Staff

212. Neural Mechanisms of Inhibition. (% course) Two two-hour sessions per week in the fall quarter. Prerequisite: consent of the instructor. Two two-hour sessions per week in the fall quarter. Prerequisite: consent of the instructor. Special attention is given to the recent concepts of inhibition at the behavioral level and their implications for learning, attention, emotion and memory. Mr. Schierman

213. Evolution and the Structure of Biomolecules. (% course) One two-hour session per week in the spring quarter. Prerequisite: consent of the instructor and upper level courses in two of the following subjects: genetics, evolution, biochemistry. Interpretation of pattern in molecular organization of living organisms in terms of evolution, and evaluation of the impact of such pattern on evolutionary theory. Mr. Campbell

214. Data Acquisition in Behavioral Neurophysiology. Two hours per week in the fall quarter of odd-numbered calendar years. Prerequisite: course 211. Neurophysiological techniques in behavioral studies; data acquisition systems and computer analysis of neurophysiological data. Mr. Harper and the Staff

215. Biopotentials in Volume Conductor. (1/2 course) Two hours of lecture per week in the winter quarter. Prerequisite: consent of the instructor. This course will provide medical and graduate students with the theoretical background for interpretation of biopotentials recorded through volume conductor, such as EEG, EMG, and EEG. Mr. E. E. Estin

216. Microphysiology of EEG and Evoked Potentials. (% course) Two hours of lecture per week in the fall quarter of odd-numbered calendar years. Prerequisite: course 215 or consent of the instructor. The cellular processes underlying generation of spontaneous and evoked electrical potentials will be studied, as well as the statistical laws controlling summation of individual cellular activities which form the potentials recorded by gross electrodes. Mr. Elul

221. Gross Anatomy of the Head and Neck. Two hours of lecture, one of discussion and six of lab per week. Prerequisite: course 102A-102B or 105A-105B or 207A-207B. Intensive and advanced study of the head and neck with relevant study of the thorax and axilla. Special emphasis is placed on applied anatomy and on understanding basic organization and function of head and neck and specific immune phenomena. Mr. Schiebel

M224A-224B, Structure and Chemistry of Connective Tissue. (% course each) Same as Oral Biology M224A-224B. Prerequisite: histology, biochemistry. This seminar course is designed for graduate students in dentistry or basic science. The objective of the course is to provide students with fundamental information on the fine structure and the chemical composition of bone, dentin, cementum, cartilage, cells of connective tissue in general, as well as the detailed synthesis of collagen, non-collagenous proteins and glycoproteins, and glycaminoglycans (mucopolysaccharides). The possible roles of the cellular and non-cellular elements in the process of biological mineralization will also be discussed. Correlation of biological processes to periodontal pathology will be stressed when possible. Mr. Weinstock and the Staff

M232. Vertebrate Visual System, I: The Retina. (Same course) Two two-hour sessions per week in the spring quarter of even-numbered calendar years. Prerequisite: consent of the instructor. Review of current information emphasizing early development and evolution of immune competence. Mr. Cooper

M231. Seminar in Vertebrate Visual System, II: The Retina. (Same course) Two one-hour sessions per week in the spring quarter. Prerequisite: consent of the instructor. Review of current information emphasizing early development and evolution of immune competence. Mr. Cooper

M251. Problems in Developmental and Comparative Immunology. (% course) Two one-hour sessions per week in the winter quarter. Prerequisite: consent of the instructor. Review of current literature emphasizing early development and evolution of immune competence. Mr. Cooper

M252. Seminar on Basic and Quantitated Neurophysiology. (% course) Prerequisite: consent of the instructor. One 90-minute session of lecture and one of discussion per week in the fall quarter. Prerequisite: consent of the instructor. Review of current literature and electrophysiology. Topics will be selected from: light absorption and generation of photoreceptor response; synaptic mechanisms and pathways for analysis of form, color, etc.; coding in optic nerve fibers. May be repeated for credit with departmental approval. Mr. Stell, Mr. Fain

M253. Communication and Coding in Nervous Systems. Two 90-minute and one two-hour sessions per week in the spring quarter of even-numbered years. Prerequisite: consent of the instructor. Presentation, discussion and critique of efforts to quantify neuronal function, where the essence of the mathematics is expressed in qualitative and physiologically meaningful terms. For example: stability analyses as nonlinear difference equations, identification of synaptic operators, offered in the spring quarter only of odd-numbered years. Mr. Segundo

M255A-255D. Seminar in Endocrinology. (% course each) One two-hour session per week in the winter and spring quarters. Prerequisite: consent of the instructor. Mr. Sawyer and the Staff

M256. Seminar in Cell Structure and Function. (% course) One hour of lecture and one of discussion per week in the winter and spring quarters. Prerequisite: consent of the instructor. Mr. Sawyer and the Staff

M257. Journal Reviews in Experimental Anatomy. (% course) One two-hour session per week. Research frontiers in various fields of experimental anatomy are reviewed and mutually discussed by graduate students and professors. The Staff (Yr.)

258. Seminars in Neuroscience. (% course) Two hours per week in the fall quarter of odd-numbered, and winter quarter of even-numbered calendar years. Prerequisite: a course in basic neuroscience 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. Schiebel

M260. Fundamental Concepts of Neuroendocrinology. (Same as Neuroscience M260A) Two hours of lecture and two hours of discussion per week in the winter quarter of odd-numbered calendar years. Prerequisites: Biochemistry 101C, Anatomy 206A and 206B, or consent of instructor. Basic concepts of neuroendocrine integration including analysis of the current literature and research techniques. Mr. Gorski

265. Evolution of Cancer. (% course) Two hours of lecture or discussion per week during the winter quarter. Prerequisite: consent of the 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 evolution. Mr. Cooper

390A-390B. The Peer Review System. (% course each) Two hours of discussion per week in the winter and spring quarters, odd-numbered calendar years. Prerequisite: advancement to candidacy in integrative or systems biology, or consent of instructor. An intensive and experimental introduction to the peer review system for the evaluation of research proposals. After consideration of the grant review process, each student will prepare an abstract and a grant proposal. These student proposals will be evaluated in a mock peer review session moderated by the faculty. Graded S/U. Mr. Gorski

495. Communicating Scientific Information. (% course) Two hours of lecture per week in the winter and spring quarters. Prerequisite: consent of the instructor. For advanced degree in Anatomy. Student papers and lecture 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. The Staff

501. Cooperative Program. (% to 2 courses) Prerequisite: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The student must obtain enrollment of UCLA students in courses taken under cooperative arrangement with neighboring institutions. To be graded S/U. Mr. Gorski

596. Directed Individual Study or Research. (% course to 3 courses) The Staff

597. Preparation for the Master's Comprehensive Examination or the Doctoral Qualifying Examination. (% course to 3 courses) The Staff

598. Thesis Research for Master's Candidates. (% course to 3 courses) The Staff

599. Dissertation Research for Ph.D. Candidates. (% course to 3 courses) The Staff

Medical History Division
Franklin D. Murphy, M.D., Sc.D., Professor of Medical History
B. Brazier, Ph.D., Postdoctoral Fellow, Department of Anatomy and Physiology in Residence.
L. C. Myers, Ph.D., Emeritus Professor of Medical History and Physiology in Residence.
John Field, II, Ph.D., Emeritus Professor of Medical History and Physiology in Residence.
L. C. Myers, Ph.D., Emeritus Professor of Medical History and Physiology in Residence.
Robert G. Frank, Jr., Ph.D., Assistant Professor of Medical History and History.
Ethel R. Lomas, M.D., Ph.D., Lecturer and Assistant Research Medical Historian.
Frances K. O'Malley, M.D., Research Dermatologist and Medical Historian
Upper Division Courses

107B. Historical Development of Medical Sciences. Three hours per week in the spring quarter. The major contributions of medicine and medical personalities from the 5th century B.C. to the 19th century A.D. Illustrated lectures and required readings from selected texts. Mr. Agnew, Ms. O'Neill

M108A-108B. History of Biological Sciences. (Same as History M106E-106F.) Three hours per week in the fall and winter quarters. Prerequisite: upper division standing. M108A: Biological sciences from ancient times to the early nineteenth century. M108B: Biological sciences from the early nineteenth century to the mid-twentieth century. Mr. Frank

110. Medicine and Society in 20th Century America. Three hours per week in the spring quarter. 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 nineteenth century. Mr. Frank

M107. The Biomedical Sciences in the 19th Century. (Same as History M106G.) Three hours per week in the fall, winter, and spring quarters. Prerequisite: consent of instructor. Topics in the growth of the biomedical sciences and their institutions in Europe and America, from the French Revolution to approximately 1900. Mr. Frank

Graduate Courses

240A-340B. History of Medical Sciences. (4 course each) One hour per week in the fall and winter quarters. Survey of the development of scientific and medical thought from ancient times to the present. The Staff

241A-241B. History of Clinical Sciences. (4 course each) One hour per week in the fall and winter quarters. 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

242. History of Pathology. (4 course) One hour per week in the fall quarter. Survey of the history of pathology and related sciences from antiquity to the 20th century, tracing the development of pathologic theory, practice, organization and education and comparing them to current practice. Mr. Agnew

243. History of Surgery. (4 course) One hour per week in the winter quarter. 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

244. History of American Medicine. (4 course) One hour per week in the spring quarter. Survey of the history of medicine in the United States from the colonial period to the present. Mr. Agnew

246. History of Neurophysiology. (4 course) Eight one-hour units. Fifteen days with a one-hour laboratory session each week. The development of experimental neurophysiology from its scientific roots in the 17th century, through the recognition in the 18th century of the excitability of the nervous system, to the formulation of the classical hypothesis of nerve conduction. Ms. Bzier, Ms. Lomax

250. History of Medical Psychology. (4 course) One hour per week in the winter quarter. An examination of the themes underlying modern medical behavior and personality. With a use 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

Individual Study and Research

596. Directed Individual Studies in Medical History. Investigation of subjects in medical history selected by students with the advice and direction of the instructor in the fall, winter and spring quarters. Individual reports and conferences. The Staff

599. Research for and Preparation of the Doctoral Dissertation. (1 to 2 courses) Investigation of materials relevant to the doctoral dissertation, their evaluation and written presentation. The Staff

ANESTHESIOLOGY

Robert O. Bauer, M.D., Professor of Anesthesiology and Pharmacology. I. Weldon Bellville, M.D., Professor of Anesthesiology. Verne L. Becker, M.D., Professor of Anesthesiology. Daniel Berenblum, M.D., Professor of Anesthesiology. Edward Deland, Ph.D., Adjunct Professor of Anesthesiology. W. L. Flacke, M.D., Professor of Anesthesiology in Residence. Ronald L. Katz, M.D., Professor of Anesthesiology (Chairman of the Department). Lawrence Krugner, Ph.D., Professor of Anesthesiology and Anatomy. Richard O. Gruen, M.D., Professor of Anesthesiology. Eduardo Redin, M.D., Ph.D., Professor of Anesthesiology and Physiology in Residence. Howard C. Schwartz, M.D., Professor of Anesthesiology. Stuart F. Sullivan, M.D., Professor of Anesthesiology (Executive Vice Chairman of the Department). John F. Vail, M.D., Adjunct Professor of Anesthesiology. John F. Young, M.D., Assistant Professor of Anesthesiology. Joan W. Flacke, M.D., Associate Professor of Anesthesiology. Malcolm G. Gilbert, M.D., Associate Professor of Anesthesiology. Ching, T. Lee, M.D., Associate Professor of Anesthesiology. Maurice Lipman, M.D., Associate Professor of Anesthesiology. Edward J. Mahoney, M.D., Adjunct Associate Professor of Anesthesiology (Acting Chairman of the Department). Martin S. Mok, M.D., Adjunct Assistant Professor of Anesthesiology. Robert C. Reynolds, M.D., Ph.D., Associate Professor of Anesthesiology. Thomas J. Anderson, Adjunct Assistant Professor of Anesthesiology. David E. Besser, Ph.D., Associate Professor of Anesthesiology. Psychology and Dentistry. Joseph C. Cudron, M.D., Assistant Clinical Professor of Anesthesiology. Selma H. Calmes, M.D., Assistant Professor of Anesthesiology in Residence. Marcos Canas, M.D., Assistant Professor of Anesthesiology. Chasul Chams, M.D., Adjunct Assistant Professor of Anesthesiology. Kenneth A. Conklin, M.D., Ph.D., Assistant Professor of Anesthesiology. James T. Conner, M.D., Assistant Professor of Anesthesiology. George G. Dreyfus, M.D., Adjunct Assistant Professor of Anesthesiology. Theresa Ferris, M.D., Assistant Professor of Anesthesiology. George P. Herr, M.D., Assistant Professor of Anesthesiology. Homicko, M.D., Assistant Professor of Anesthesiology. Robert D. Kaufman, M.D., Assistant Professor of Anesthesiology. Richard J. Kowm, M.D., Adjunct Assistant Professor of Anesthesiology and Lecturer in Dermatology. Arnold Lee, Adjunct Assistant Professor of Anesthesiology. Jordan D. Molloy, M.D., Associate Professor of Anesthesiology. Stanley Schneider, M.D., Assistant Clinical Professor of Anesthesiology. Susan S. Sheridan, M.D., Adjunct Assistant Professor of Anesthesiology. Janice Silverton, M.D., Adjunct Assistant Professor of Anesthesiology. Bruce Skolnick, Ph.D., Assistant Professor of Anesthesiology. Young-Jin Sohn, M.D., Adjunct Assistant Professor of Anesthesiology. Frank A. Takanaga, M.D., Adjunct Assistant Professor of Anesthesiology. Susan Ward, Ph.D., Assistant Professor of Anesthesiology in Residence.

Joseph Barber, Ph.D., Professor of Neurology. John DeAngelis, M.D., Clinical Professor of Anesthesiology. Vladimir Golovchinsky, M.D., Assistant Researcher in Anesthesiology. Errol Hacker, M.D., Clinical Instructor of Anesthesiology. Lea E. Katz, CRNA, B.S.N., M.A., Lecturer in Anesthesiology. Felice Miller, Ph.D., Clinical Instructor of Anesthesiology. Hon Chung, P.O.D., Specialist in Anesthesiology. Yam Ying, Tsai, M.D., Clinical Instructor of Anesthesiology. Ronald Wender, M.D., Clinical Instructor of Anesthesiology.

210A. Chemistry and Physics of Nurse Anesthesia I. (4 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. Deland

210B. Chemistry and Physics of Nurse Anesthesia II. (4 course) Lecture, two hours; discussion, one hour. Prerequisite: Chemistry and Physics of Nurse Anesthesia I. A continuation of the study of the principles of chemistry and physics as applied specifically to the practice of anesthesia. Mr. Deland

210C. Chemistry and Physics of Nurse Anesthesia III. (4 course) Lecture, two hours; discussion, one hour. Prerequisite: Chemistry and Physics of Nurse Anesthesia II. A continuation of the study of the principles of chemistry and physics as applied specifically to the practice of anesthesia. Mr. Deland

215A. Pharmacology of Nurse Anesthesia I. (4 course) Lecture, four hours; discussion, one to two hours. Prerequisite: Chemistry and Physics of Nurse Anesthesia I. A study of the major contributions of medicine and medical 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

221. Cardiovascular Anatomy and Physiology for Nurse Anesthetists. (3 course) Lecture, four hours; discussion, one to two hours. An integrated study of the anatomy and physiology of the cardiovascular system as related to acid-base balance and theories of narcosis. Mr. Flacke

223. Anatomy and Physiology of the Endocrine and Excretory System for Nurse Anesthetists. (4 course) 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. Ms. Katz, Mr. Skolnick

225. Anatomy and Physiology of the Nervous System for Nurse Anesthetists. (4 course) 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. Ms. Katz, Mr. Skolnick

290. Anesthesia Seminar for Nurse Anesthetists. (4 course) Discussion, three to two hours. Discussion of special problems in anesthesia administration as related to student performance. Mr. Katz and the Staff

400A. Basic Clinical Anesthesia for Nurse Anesthetists I. (4 course) Lecture, three hours; laboratory, thirty hours. Prerequisite: Fundamentals of Anesthesia Practice for Nurse Anesthetics. Connection of techniques of anesthesia administration with basic science knowledge as applied in the clinical area with supervised practice. Graded S/U.

400B. Basic Clinical Anesthesia for Nurse Anesthetists II. (4 course) Lecture, two hours; laboratory, thirty hours. Prerequisite: Basic Clinical Anesthesia for Nurse Anesthetists I. A continuation of the practice of techniques of anesthesia administration as applied in the clinical area with supervised practice. Graded S/U.

400C. Basic Clinical Anesthesia for Nurse Anesthetists III. (4 course) Lecture, two hours; laboratory, thirty hours. Prerequisite: Basic Clinical Anesthesia for Nurse Anesthetists II. A continuation of techniques of anesthesia administration as applied in the clinical area with supervised practice. Graded S/U.

400D. Clinical Anesthesia for Nurse Anesthetists IV. (4 course) Lecture, two hours; laboratory, thirty hours. Prerequisite: Basic Clinical Anesthesia for Nurse Anesthetists III. A course of refinement of anesthesia techniques with emphasis on specialized areas of anesthesia administration with supervised practice. Graded S/U.
400E. Clinical Anesthesia for Nurse Anesthetists V. (3 course) Lecture, laboratory, thirty hours. Prerequisite: Clinical Anesthesia for Nurse Anesthetists IV. A practice of refinements of anesthesia techniques with emphasis on specialized areas of anesthesia administration with supervised practice. Graded S/U. The Staff

400F. Clinical Anesthesia for Nurse Anesthetists VI. (3 course) Lecture, two hours; Laboratory, thirty hours. Prerequisite: Clinical Anesthesia for Nurse Anesthetists V. A practice of refinements of anesthesia techniques with emphasis on specialized areas of anesthesia administration with supervised practice. Graded S/U. The Staff

400G. Clinical Anesthesia for Nurse Anesthetists VII. (3 course) Lecture, two hours; laboratory, thirty hours. Prerequisite: Clinical Anesthesia for Nurse Anesthetists VI. A practice of refinements of anesthesia techniques with emphasis on specialized areas of anesthesia administration with supervised practice. Graded S/U. The Staff

401. Orientation to Nurse Anesthesia. (3 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. Prerequisite: Clinical Anesthesia for Nurse Anesthetists I. Instructor: Ms. Katz

597. Preparation for the Master's Oral Qualifying Examination. (3 course) Prerequisite: consent of instructor. Opportunity to pursue comprehensive study in anesthesia and related fields on an individual basis with the opportunity for discussion of the material with the instructor. Prerequisite: Clinical Anesthesia for Nurse Anesthetists I. Instructor: Mr. Katz

598A. Research in Anesthesia I. (4 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 Master's Program. Instructor: Mr. Katz

598B. Research in Anesthesia II. (4 course) Prerequisite: Research in Anesthesia I. 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 Master's Program. Instructor: Mr. Katz

Undergraduate Program

The undergraduate program in anthropology is intended to convey an informed appreciation of the varieties of human culture, development and experience. The faculty represents interests in archaeology, physical anthropology and sociocultural anthropology, and these traditional divisions are crosscut by interests in ecology and social adaptation, individual and institutional organization in relation to cognition and communication. In order to take full advantage of the departmental program, the student is urged to plan his program around his own interests with the help of a counselor, to include not only required courses, but also independent studies and challenging and useful courses in related fields.

The department has a regular faculty advisor to aid students in dealing with routine requirements. In addition, undergraduates are encouraged to make the personal contact with any faculty member whose work is of interest to them for specialized guidance. Undergraduate students may also consult representatives of the Anthropology Undergraduate Student Association for additional guidance.

The undergraduate and graduate student associations are integral to the departmental program and organization. Through them students have the opportunity to take a direct part in departmental administration, select speakers and programs, and produce publications including student evaluations of all courses taught in the department. Undergraduate and graduate students are encouraged to participate in departmental activities and with the departmental library, museum, reading and typing rooms, and the Archaeological Survey program.

Preparation for the Major

Required: Anthropology 1A-1B, 5A, 5C. All courses taken in preparation for the major must be taken on a letter grade basis.

Foreign Language

The department requires a demonstration of proficiency in one foreign language to insure that its graduates have the communication skills and cultural insights offered by such proficiency. Any spoken language is acceptable as is any extinct language with a substantial body of literature. Proficiency is equated with the skill level to be attained through course five in a language. Specifically, this requirement may be met in one of two ways. (1) By completion of the fifth quarter of one foreign language or (2) by demonstrating foreign language proficiency at level 5. Courses taken to satisfy the foreign language requirement may be taken on a Pass/Not Pass basis and may be applied toward satisfaction of the College of Letters and Science breadth requirements. For additional information, consult the department counselor.

The Major

Required: (1) ten upper division courses or their equivalent including at least one course from 6 of the 8 groups listed in the catalog under Anthropology, and (2) four upper division courses from one or more of the following departments: economics, geography, history linguistics, political science, psychology, sociology. Two of the four courses required outside of the department may be upper division CED courses. (Courses from other departments related to the student's specialization may be applied by petition.) All of the courses taken to satisfy major requirements must be taken on a letter grade basis.

Students intending to continue for a graduate degree are advised to take Anthropology 182A-182B, at least one course in field training (Group VII) and Anthropology 173A-173B or its equivalent.

Students must also meet the requirements of the University and the College of Letters and Science for graduation.

Graduate Requirements

All students should obtain a detailed statement of the graduate program from the graduate secretary, Department of Anthropology, 341 Haines Hall.

The department offers the M.A. and Ph.D. degrees. For the Ph.D. degree, all students are required to obtain research experience and a thorough background in both substantive and methodological areas. The department offers specialized training in archaeology, ethnology, linguistics and physical anthropology, and encourages the definition of interests which combine various aspects of these subfields with each other or with areas outside anthropology.

Admission

In addition to meeting the general graduate requirements listed elsewhere in this catalog, students are admitted to the department by an Admissions Committee. All graduate education courses and candidates will be chosen on the following bases: (1) prior scholastic performance; (2) ratings and recommendations by professors and other individuals; (3) the Graduate Record Examination; and (4) courses on the Graduate Record Examination. Students may enter the program only in the Fall Quarter. Candidates are normally admitted for the Ph.D. only.

Graduate Program and Advising

On entering the graduate program, each student will be assigned an advisor. His function will be to acquaint the student with the department and to assist him in devising an initial plan of study. By the beginning of the second quarter, the student will have formed a two-man advisory committee. This committee will assist the student in designing a long-term plan of study developed around the student's interests which provides for those courses, seminars and research experiences that will best prepare him to implement and develop his interests. When it has been determined that the student is prepared for the Ph.D. qualifying examinations, his advisory committee will be extended to a five-man committee including two members from outside the department. This committee will administer the Ph.D. qualifying examinations, supervise the student's doctoral research, and administer the final oral examination after completing all other requirements of the thesis.

Requirements for the M.A. and Ph.D. degrees

General. A dossier developed for each student will contain materials relevant to deciding whether a student is prepared to take his qualifying examination. This material will consist of a study plan and

ANTHROPOLOGY

(Department Office, 341 Haines Hall)

Walter R. Cochleman, Ph.D., Professor of Anthropology. James N. Hill, Ph.D., Professor of Anthropology. Jacques Maquet, Ph.D., Professor of Anthropology (Chairman of the Department). Clement W. Meighan, Ph.D., Professor of Anthropology. Michael Moerman, Ph.D., Professor of Anthropology. Sally E. Moore, Ph.D., Professor of Anthropology. Henry B. Nicholson, Ph.D., Professor of Anthropology. Wendell H. Oswald, Ph.D., Professor of Anthropology. Henry Van Ness, Ph.D., Professor of Anthropology. Johannes Wilber, Ph.D., Professor of Anthropology. Bobby J. Williams, Ph.D., Professor of Anthropology. Ralph P. With, Ph.D., Emeritus Professor of Anthropology. Joseph B. Birdsell, Ph.D., Emeritus Professor of Anthropology. Hilda Kuper, Ph.D., Emeritus Professor of Anthropology. Werner B. Lenz, Ph.D., Emeritus Professor of Anthropology. Christopher Dunnan, Ph.D., Associate Professor of Anthropology. Allen H. Donnan, Ph.D., Associate Professor of Anthropology. Donald C. Lindburg, Ph.D., Associate Professor of Anthropology. Claudia Mitchell-Kernan, Ph.D., Associate Professor of Anthropology. Philip L. Newman, Ph.D., Associate Professor of Anthropology. Dwight Read, Ph.D., Associate Professor of Anthropology. Victor E. Sacher, Ph.D., Associate Professor of Anthropology. Robert Byles, Ph.D., Assistant Professor of Anthropology. Timothy Earle, Ph.D., Assistant Professor of Anthropology. Galen E. Kennedy, Ph.D., Assistant Professor of Anthropology. Paul Kroskrity, Ph.D., Assistant Professor of Anthropology. Eugene L. Mendonsa, Ph.D., Assistant Professor of Anthropology. Robert J. Russell, Ph.D., Assistant Professor of Anthropology. Carlos G. Velez, Ph.D., Assistant Professor of Anthropology. C. Rainer Berger, Ph.D., Professor of Anthropology. Geography and Geophysics. William O. Bach, Ph.D., Professor of Linguistics and Anthropology. Pamela J. Brink, Ph.D., Associate Professor, School of Nursing and Anthropology. Bernard G. Campbell, Ph.D., Adjunct Professor of Anthropology. C. Rowland, Jr., Ph.D., Lecturer in Anthropology. Robert B. Edgerton, Ph.D., Professor of Anthropology and Psychiatry. Marja Gombrichts, Ph.D., Professor of European Archaeology. John G. Kennedy, Ph.D., Associate Professor of Psychiatry and Anthropology in Residence. L. L. Langness, Ph.D., Professor of Anthropology and Psychiatry in Residence. Nancy Levine, Ph.D., Lecturer in Anthropology. Douglas Price-Wentworth, Ph.D., Professor of Anthropology and Psychiatry in Residence. Ralph H. Turner, Ph.D., Professor of Sociology and Anthropology. Thomas S. Weinstor, Ph.D., Assistant Professor of Anthropology and Psychiatry.
stated objectives, all term papers, written evaluations of course and seminar work by the student's instructors, annual written evaluations by the advisory committee of progress toward stated objectives, and a research paper on a topic developed by the student in consultation with his committee. The research paper, and all other materials, will be reviewed by a third member appointed to the advisory committee in the quarter when the research paper is completed. The student's performance will then be presented for full committee review, such review normally taking place not later than the sixth quarter of residence. Students admitted to the department with an advanced degree from another department may prepare for the qualifying examinations, but may not take them until three quarters of residence have been completed.

Language Requirement. The student must pass the Graduate Language Examination (a) in a faculty foreign language before the oral qualifying examination. Also, before taking the qualifying examination, he must pass an examination administered by his Ph.D. committee testing his knowledge of an appropriate amount of non-disciplinary literature relevant to his area of specialization in the same language.

M.A. Degree. The department does not admit candidates for the M.A. only; the M.A. degree is not required as a prerequisite to the Ph.D. degree. Moreover, graduate students preparing for the Ph.D. normally qualify and apply for the M.A. after satisfactory completion of a research paper and after faculty review. The research paper and the oral examination constitute a comprehensive examination.

Ph.D. Degree. Advancement to candidacy for the Ph.D. is dependent on passing qualifying examinations. In accordance with university regulations, the Ph.D. degree is given with or without distinction on the basis of an oral examination. The written examination, conducted by the departmental representatives on the committee, will be considered to be in the nature of a preparation for the oral examination. The character of the written examination will be determined by the committee, in consultation with the student, and need not consist of a closed book examination. The content of the oral examination, conducted by both departmental and non-departmental representatives on the committee, will also be determined by the committee. Upon successful completion of the Qualifying Examinations and Advancement to Candidacy, the student will proceed with dissertation research. The dissertation will be an original contribution to anthropology literature, normally, but not necessarily, based upon field work. Award of the Ph.D. degree is based on the dissertation and a final oral examination.

Lower Division Courses

1A-1B. The Principles of Human Evolution. Lecture, three hours; discussion, one hour. Course 1A is prerequisite to course 1B. Students cannot receive credit for both Anthropology 1A-1B and Anthropology 11. Human population biology in the conceptual framework of evolutionary processes. 1A emphasizes the genetic basis of evolution, population biology and divergence of human populations. 1B emphasizes comparative primate behavior, structural anatomy and the fossil record. These courses are required as preparation for the major.

The Staff

5A-5C. Introduction to Cultural Anthropology.

5A. Principles of Cultural Anthropology. Lecture, three hours discussion, one hour. Course 5A is prerequisite to course 5C. This course introduces the student to the basic concepts and theories of cultural anthropology as they relate to the study of contemporary peoples.

The Staff

5C. Culture History. Lecture, three hours; discussion section, one hour. The development of culture from its first beginnings to the advent of writing as developed through archaeological investigation.

The Staff

11. The Evolution of Man. Lecture, three hours; discussion, one hour. Students cannot receive credit for 11 and 1A-1B. This course does not satisfy major requirements. A one-quarter course on the evolution of man. Emphasis is on evolutionary processes and the evolutionary past of the human species.

The Staff

M12. Human Genetics and Reproduction. (Same as Public Health M12.) Survey for general student of normal and abnormal development, and basic principles. Topics include genetics, human reproduction, problems of pregnancy and its outcome, birth defects, prenatal diagnosis, and genetic counseling. Emphasis is on interpreting facts for current discussions of the "New Genetics" and the ethical and social questions regarding reproduction and development.

Mr. Sever

22. General Cultural Anthropology. Lecture, three hours; discussion section, one hour. This course is designed for non-majors. Students cannot receive credit both for Anthropology 22 and 5A. An introduction to the cultural understanding of human behavior designed for students who do not plan future work in anthropological studies. Emphasis is placed on those concepts and theories that are applicable to the everyday life and professional activities in the modern world. Examples of institutions and individual behavior of modern America are counterpointed against studies of primitive life. The Staff

Upper Division Courses

Courses 1A-1B, 5A, 5C or upper division standing are prerequisite to all upper division courses, except as otherwise stated. All upper division courses with letter designations (A, B, etc.) may be taken independently except as otherwise stated.

GROUP I: ETHNOGRAPHY

This group contains courses of a descriptive nature where the intent is to survey the cultural patterns of an ethnic group either diachronically or synchronically.

102. World Ethnography. Diversity of cultural types and commonalities of cultural systems discussed through the presentation of selected ethnographies. The course will also be concerned with criteria of ethnographic adequacy in each medium.

The Staff

Area Courses. (Anthropology 103A-Anthropology 110) Prerequisite: courses 5A, 5C, 22 or 102. Each course is a survey of representative cultures and cultures in designated areas of the world. The survey will include discussions of technological, social and ideological patterns among the ethnic groups of the area. Special ethnological and theoretical problems will be covered as appropriate. Outside reading and papers may be required.

103A-103C. Peoples of Asia.

103A. South Asia: Buddhist Civilization. A study of Buddhism as basis of one of the main cultural streams of South Asia; its evolution from a system of wisdom to a religion, a way of life, and a national polity; historical background including early antecedents in India. Mr. Maquet

103B. Southeast Asia. Mr. Moerman

103C. Japan (I) Introductory. Prerequisite: upper division standing or consent of instructor. An introduction into contemporary Japanese culture, family life, social organizations, religion, values and norms. Mr. Satsuma

103D. Japan (II) Advanced. Prerequisite: Japan 1. An advanced level discussion of the selected subjects in contemporary Japan origins of people and language, problems of "modernization" and "Westernization", psychological characteristics of the people, social deviance. Mr. Wagatsuma

103E. Culture and Society in the Himalayas. Prerequisite: course 22 or consent of instructor. The course will provide an overview of culture and society among the diverse peoples of the Himalayas. Topics to be covered include the effects of urbanization and economic adaptation, politics in traditional isolation and within the framework of recent national integration, kinship, forms of marriage and the status of women, religion and the social structure of Hindu-Buddhist culture, contact zone and current problems of modernization.

Ms. Levine

105A-105C. Peoples of Latin America.

105A. Peoples of South America. Mr. Wilbert

105B. Peoples of Middle America. The Staff

105C. Latin American Societies. The Staff


106A. Peoples of California: Ethnography. Mr. Meighan

106B. Peoples of California: Prehistory. Mr. Meighan

106C. Peoples of North America. Mr. Osワlt

106D-106E. Archaeology of North America. Prerequisite: courses 5A-5C or course 22 or consent of instructor. Course 106A and 106B may be taken during the same quarter. Course 106D is prerequisite to 106E. Prehistory of the North American Indians; the evolution of Indian societies from earliest times to (and including) contemporary Indians; approaches and methods of American Archaeology. Mr. Hill

106F. Eskimos. Prerequisites: upper division standing. This is a survey of Eskimo life, history, culture, and contemporary Eskimo life stressing their importance in anthropological theory and practice. Particular emphasis is placed in Eskimo origins, technology, and modern administration.

Mr. Osワlt

106G. The Comparative Ethnography of the Hispanic Peoples in North America. Prerequisites: course 5A or 22 or consent of instructor—primarily for upper division students. Comparative ethnography of the social and cultural adaptations of the Hispanic Peoples in North America including Mexican/Chicanos, Cubans, and Puerto Ricans, their respective social organization, ethnic and political institutions, sacred and secular belief systems, and expressive cultures. Each group is presented as adapting within culture complexes closely related to historical developments in the United States. Linkages for each cultural group transcend national boundaries and national space so that direct and indirect historical interaction links all groups, making each in part relevant to the Hispanic cultural culture as a whole. Mr. Velez

106H-106I. Peoples of Pueblo Southwest. Prerequisites: one of the following: Anthropology 5A-5C, Anthropology 22, upper division standing or consent of instructor. Course 106H or consent of instructor is prerequisite to 106I. A survey of ethnographic and ethnohistorical review on the historic Pueblo Indians—Hopis, Zuni, Tanoans, and Keresans—and their immediate neighbors. 106H introduces the language, history, social organization, and traditional cultural systems of the various groups. 106I focuses on selected problems in Pueblo ethnology and considers the Pueblo Southwest as an important locus for anthropological theory and method.

Mr. Kroskrity

107A-107B. Introduction to African Societies and Modes of Thought.

107A. Simple Societies of Africa. Prerequisite: upper division standing or consent of instructor. A comparative analysis of African societies and systems of thought. Social, economic, kinship, political, religious and medical institutions in societies which, in the past, lacked centralized political institutions. Students are introduced to the classic ethnographies and current research among these African peoples in the modern world.

Mr. Mondonsa, Ms. Moore

107B. Complex Societies of Africa. Prerequisite: upper division standing or consent of instructor. A comparative analysis of African societies and systems of thought. Social, economic, kinship, political, religious and medical institutions in societies

NOTE: For key to symbols, see page 74
which had indigenous centralized political institutions e.g., chieftaindoms, kingdoms, states. Students will be introduced to the classic ethnographies and current research among these peoples in modern Africa, including urban centers.

Mr. Mendonsa, Ms. Moore

108. Peoples of the Pacific. Mr. Newman
109. Old Stone Age Archaeology. (Formerly numbered 109A-109B.) Prerequisite: course 5C or consent of the instructor. The development of Paleolithic and Mesolithic cultures of Europe, Asia, and Australia, emphasizing the ordering and interpretation of archaeological data. Pleistocene geology and chronology, the relationship between human, cultural and biological evolution.

Mr. Sackett

110. Peoples of the Middle East: Arab Culture. Prerequisite: course 5A, consent of instructor. This 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.

The Staff

GROUP II. DEVELOPMENT OF MAN AND CULTURE

This group contains two kinds of courses in terms of method: Those courses primarily historical in orientation where the concern is to present sequences of change in the development of man and culture, and those courses concerned with general theories of change.

111A-111B. Fossil Man and His Culture. Course 111A is prerequisite to 111B. No credit will be allowed for courses 111A without course 111B. An Introduction to paleoanthropology; the morphology, ecology, and culture of fossil man, in the light of the synthetic theory of evolution.

Ms. Kennedy, Mr. Sackett

112. Hunting and Gathering Societies. Prerequisite: course 5A. A survey will be made of hunting and gathering societies. Their distinctive features will be examined from both an ecological and cultural viewpoint. The possibility of developing a general framework for synthesizing these two viewpoints will be discussed. This synthesis will be used as a basis for illustrating the relation of hunting and gathering societies to an understanding of complex societies.

Mr. Read

113. Civilizations of Subsaharan Africa. Prerequisite: upper division standing or consent of instructor. A comprehensive overview of the social and cultural worlds of sub-Saharan Africa. This course is interpreted as a broad cultural unit with its specific African configurations, and as a plurality of civilizations, each based on a particular association of an environment (dry savanna, grassland, equatorial forest, highlands) with a dominant technique of acquisition/production (hunting/gathering, cereals growing, cattle-herding, commercial crops), and the basis for illustrating the relation of hunting and gathering societies to an understanding of complex societies.

Mr. Maquet

119. Culture Stability and Culture Change: Problems of cultural and social change, including the impact of western civilization on native societies. Mr. Mendonsa

122A. Comparative Society. Prerequisite: courses 5A-5C, or Sociology 1 or consent of the instructor. The general principles of the organization of society; the relation of these to the technological complexity and ecological conditions of the culture; the principles of evolutionary development of society. The Staff

122C. Technology and Environment. Significance of material culture in archaeology and ethnology; problems of invention and the acceptance of innovations; the ecological and sociological components of technological systems; selected problems in material culture. The Staff

123. Origins of Old World Civilization. Prerequisite: course 5C or course 22. A survey of the prehistoric foundations and cultural development of primary civilizations in the Near East, Europe and Asia as revealed by archaeology; theories of cultural evolution and diffusion based upon archaeology. Mr. Sackett

123C. Ancient Civilizations of Western Middle America (Nahuatl Sphere). Prerequisite: course 5A-5C or course 22. Pre-Hispanic and Conquest period native cultures of Western Middle America as revealed by archaeology and early colonial writings in ancient and modern languages, Toltec-Aztec and Mixteca civilizations and their predecessors, with emphasis on socio-political systems, economic patterns, religion and aesthetic and intellectual achievements.

Mr. Nicholson

123D. Ancient Civilizations of Eastern Middle America (Maya Sphere). Prerequisite: courses 5A-5C or course 22. Pre-Hispanic and Conquest period native cultures of Eastern Middle America as revealed by archaeology and early colonial writings in Spanish and other Modern Indian languages. Lowland and Highland Maya civilizations and their predecessors with emphasis on socio-political systems, economic patterns, religion and aesthetic and intellectual achievements.

Mr. Donnan

GROUP III. BIOLOGY AND CULTURE

An examination of the biological factors in human variability, both behavioral and physical, and the operation of biological factors within a cultural setting.

130A-130B. The Genetics of Human Diversity. Course 130A is prerequisite to 130B. No credit will be allowed for course 130A without course 130B. A general survey of the techniques and problems of racial classification. Emphasis is on the genetic approach. The methods of modern classical genetics and population genetics are applied to human evolution.

The Staff

131. Evolution and Biology of Human Behavior. A comparative survey of the behavior patterns of primate and Paleolithic peoples and those of non-human primates. The biological variables fundamental to human and primate behavior will be assessed with regard to theories on the evolution of human culture.

The Staff

132. Comparative Morph-Physiology of the Higher Primates. Lecture, two hours; laboratory, three hours. The comparative anatomy of monkeys, apes and man will be surveyed. The methods and data prerequisite to the interpretation of primate fossil records will be discussed.

The Staff

133A-133B. Primate Behavior Non-Human to Human (2 courses) Prerequisites: upper division standing. Course 133A is prerequisite to 133B. Review of primate behavior as known from laboratory and field studies. Stresses theoretical issues and the evolution of social 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. This course is offered on an In Progress Basis. Credit received only after completion of the full 2-quarter sequence.

The Staff


Mr. Byles

135A. Primate Evolution. Prerequisite: upper division standing/consent of instructor. A survey of the

prime paleontological and evolutionary record, encompassing prosimians, New and Old World monkeys and hominoids. Attendant aspects of paleoecology and behavior will be discussed.

Mr. Russell

GROUP IV. SOCIAL SYSTEMATICS

Courses which focus on the interpretation or explanation of some type of code, symbol system, or behavior pattern and where the central analytic concern is the symbol or its symbols as related to social or institutional processes or intercultural dynamics, and where theory is concerned with the relation between the individual and his interactional setting. Anthropology students may also fulfill Group IV requirements by taking Linguistics courses.

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

Mr. Maquet

139. Comparative Minority Relations. Prerequisites: courses 5A-5C. Comparative study of minority relations, social discrimination and prejudice. The emphasis will be both on cross-cultural perspectives and on psycho-cultural analysis. The course will take as its subject India, and other areas. The factors responsible for discrimination and the cultural-psychological consequences of class, caste or minority status of the individuals will be discussed.

Mr. Velez

140. Comparative Religion. A survey of various methodologies in the comparative study of religious ideologies and action systems. These include the understanding of particular religions through descriptive and structural approaches, and the identification of social and psychological factors which may account for variation in religious systems cross-culturally.

Mr. Newman

141. Social and Psychological Aspects of Myth and Ritual. This course is aimed at understanding the social and psychological significance of myth, ritual and symbolism, with particular attention given to rituals concerned with folk psychotherapies, possession and trace phenomena. Ms. Mendonsa

142. Comparative Study of Socialization. Introduces to ethnographic data on socialization and child rearing, explaining cross-cultural variability in socialization. Current methods and research topics in the field.

Mr. Weiser

143. The Individual in Culture. Prerequisite: upper division anthropology, sociology, or psychology students. The course considers the balance for freedom and determinism for individuals and societies in the interrelation of personality, social structure and culture. It surveys the nature and character of human personality and uniformity of personality within and between cultures; the relation of normal and abnormal, conformity and deviance.

Mr. Edgerton

144. Aesthetic Anthropology. Lecture, three hours. Prerequisite: upper division standing. Elaboration of cultural symbols of aesthetic phenomena that meets the requirements of anthropological research. Aesthetic phenomena as cultural: their integration in a cultural system; relationships to other elements in the interplay of social forces.

Mr. Maquet

145A. Introduction to Psychological Anthropology. Prerequisites: upper division standing or consent of instructor. 145A is prerequisite to 145B. An historical approach to culture-and-per- forming Linguistics 100 psychological anthropology. These sub-disciplines will be described and analyzed as they relate to the broader history of anthropology and to developments in other fields, especially sociology, psychology, and psy-
145A. Introduction to Psychological Anthropology. Prerequisites: course 145A. A survey and critical analysis of the theories and methods in use in contemporary psychological anthropology. These methods and theories are examined as they are employed in the crosscultural study of the following topics: socialization and development, social behavior, and deviance, fantasy, religion and altered states of consciousness, cognition, perception and motivation, communication and language, psychobiology and evolution. Finally, theories and methods in psychological anthropology are compared with developments in socio-cultural anthropology as a whole. The Staff

M146. Language in Culture. (Same as Linguistics M146.) Prerequisites: Linguistics 1 or Anthropology 177A-177B. The study of language as an aspect of culture; the relation of habitual thought and behavior to language; the problem of meaning. For course M146, graduate students in anthropology who propose to specialize in linguistics must take Linguistics 100 plus graduate courses in linguistics chosen from Linguistics 200A-200B and 210A-210B in consultation with an adviser; or they may take the M.A. in linguistics together with the Ph.D. in anthropology.

M149A-149B. Human Social Ethology. Prerequisite: Permission (consent of instructor). Two quarter course. Grade of IP for first quarter. Each student will videotape a scene of naturally occurring human interaction to be analyzed (in lab sessions) by the class in the areas of cognitive, affective, symbolic behavior (ritual, myth, art, folklore, dreams, projective tests); social deviance (anti-social behavior, mental illness, suicide).

Mr. Watanabu

GROUP V. SOCIAL SYSTEMATICS II

Courses which focus on the explanation of some type of social institutions or systems, where the central analytic constructs are groups, roles, norms, and societies, and where theory is concerned with the development and maintenance of human groups or networks.

150A-150B. Social Anthropology. 150A. History of Social Anthropology. Prerequisites: course 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 Enlightenment to the present. Reviews major early socialists. Sack, French Sociology and British structuralist-functionalism and current concerns in social theory.

Mr. Mendonsa, Ms. Moore

150B. Social Organization. Prerequisites: course 5A-5C or course 22 or Sociology 1 or 101 and upper division standing in Anthropology and Sociology. 150A would also be advisable. Formal presentation of the methods, aims and conceptual framework of social anthropology. Analysis of thought and behavior within systems of social relationships. Emphasis on structural-functional approach and the process of social change.

Mr. Mendonsa, Ms. Moore

151. Kinship and Social Organization. Prerequisite: Anthropology 145A. Upper division. Kinship is surveyed as a systematic study in anthropology with a focus on the basic theoretical issues. Kinship analysis is presented as a tool in research.

Mr. Mendonsa

152. Traditional Political Systems. Prerequisite: course 122A or Sociology 1 or 101 and consent of the instructor. Political organization in pre-industrial societies of varying degrees of complexity. Law and the maintenance of order; corporate groups; ideology. The relations of political to other institutions of society.

The Staff

153A-153B. Production and Exchange in Traditional Societies. A review of economic and ecological approaches to studying organization of production and exchange. Economic life is viewed from three perspectives: adaptation, decision-making and social structure. Comparative theories are discussed in the content of ethnographic evidence from a wide variety of cultural systems. 153A: Non-Stratified Societies, 153B: Stratified Societies. Mr. Earle, Mr. Johnson

155. Illness in Non-Western Societies. Prerequisites: course 5A-5C or course 22 or Sociology 1 or 101 and upper division standing, or consent of instructor. Illness in non-Western societies, in the interpretation of ethnographic observations. 155A, 155B. Mr. Mendonsa

156. Intentional Communities. Prerequisite: upper division standing or consent of instructor. Communes and monasteries, shasum and kibbutz are voluntarily joined societal units, offering complete life-styles perceived as alternatives to the mainstream, and stressing the affects of involvement of the members. Questions such as the following will be discussed in a comparative perspective: institutional goals stated in the communitarian perspective; life-styles perceived as alternatives to the mainstream; the ideological foundations of communal life. Mr. Maquet

157. Access to Knowledge. Prerequisite: course 145A. A systematic study of the methods and perspectives of anthropology. These methods and theories are employed in the crosscultural examination of phenomena and conceptual framework of the following topics: socialization and development, social behavior, and deviance, fantasy, religion and altered states of consciousness, cognition, perception and motivation, communication and language, psychobiology and evolution. Finally, theories and methods in psychological anthropology are compared with developments in socio-cultural anthropology as a whole. The Staff

158. Health in Culture and Society. (Same as Nursing M168.) Prerequisite: upper division standing. An examination of the theories and methods of medical anthropology in relation to cross-cultural health systems. These networks, attitudes and belief systems of the participants. Emphasis will be placed upon interaction networks in health care systems.

Mr. Brink

159. Social Networks and Corporate Groups. (Same as Law M151.) Prerequisite: upper division standing or consent of instructor. Two approaches to the analysis of social organization are examined: their uses and limitations in the study of modern societies, in the interpretation of ethnographic materials, and in analyzing present day social relations. Social, political, economic implications explored. Uses in field work discussed. Students will have an opportunity to complete small field projects, and will reanalyse library materials.

Ms. Moore

GROUP VI. CONTEMPORARY PROBLEMS

This group includes those courses (taught from any point of view and with any subject matter) which are concerned with application of anthropological techniques and methods to problems of contemporary concern. This group includes courses which arise as a product of the contact between our society and others.

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

Mr. Nicholson

161. Development Anthropology. Prerequisites: courses 5A-5C and upper division standing or consent of the instructor. Comparative study of the development of tribal societies and the process of acculturation of peoples, and the urbanization of ruralities. Particular emphasis on the relation between national and international, and local sociocultural systems. The theories of social movements. Analytical theoretical constructions will be critically discussed.

Mr. Mendonsa

162. Contemporary American Indian Problems. Contemporary problems of the American Indian both on and off the reservation. Topics will include self-determination, land claims, activism, urban Indians, and role of the Bureau of Indian Affairs.

The Staff

163. Women in Culture and Society. Prerequisite: course 5A or 22. A systematic approach to the study of sex roles from an anthropological perspective. A review of relevant patterns of adaptations supported by ethnographic material from traditional cultures and contemporary American culture.

The Staff

164. The Afro-American Experience in the United States. Prerequisites: Anthropology 145A and 164. Prerequisite: consent of instructor. This course aims to promote understanding of contemporary sociocultural forms among Afro-Americans in the United States by presenting a comparative and diachronic perspective on the unique experience in the new world. We will be 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

GROUP VII. TECHNIQUES AND METHODS

Techniques are thought of as procedures in gathering or manipulating data; methods are thought of as concerned with problems of inference and validation. The following courses deal with one or both concerns. They are intended for majors and graduate students in anthropology. Anthropology students may also fulfill Group VII requirements by taking Linguistics 110 and/or European Studies 149.

170A-170B-170C. Field Training. Prerequisite: consent of instructor.

170A. Archaeology. Introduction to archaeological problems, theories, methods, and data analysis.

The Staff

170B. Ethnology. Training in ethnographic field methods. Execution of individual and group ethnographic field research projects.

The Staff

170C. Physical Anthropology. Training in basic field methods; anthropometry, taxonomy, laboratory methods, and bio-statistics.

The Staff

171A-171B-171C. Laboratory Methods in Physical Anthropology. Prerequisite: courses 1A-1B. Restriction to majors only and graduate students; consent of instructor. Laboratory methodology and analysis of human variation on skeletal material (171A) and on living populations (171B) and bio-chemical material (171C).

172. Methods and Techniques of Ethnography, Introduction to the problems and procedures of extracting cultural data from documentary sources and their interpretation and analysis. The relevant documentary sources of various regional and topical regions will be selected as case histories to illustrate more concretly the problems and challenges in this major area of anthropological concern.

Mr. Nicholson

173A-173B. Research Design and Quantitative Procedures. Prerequisites: upper division standing. Course 173A is prerequisite to 173B. Course 173A may be taken without 173B. A two quarter course

NOTE: For key to symbols, see page 74
on research design and quantitative data analysis in anthropology. The second semester focuses on the application of the scientific method to anthropology, on the techniques of quantitative field research, and on the conceptual framework underlying statistical analysis of quantitative data. The second semester emphasizes research design and statistical hypothesis testing and will include student data collection and processing.

Mr. Johnson, Mr. Read

174. Laboratory Methods in Technology and Investigation. Prerequisite: course 125C or consent of the instructor. Intensive experimentation in the technology of nonliterate people. Mr. Donnan

175A. Strategy of Archaeology. Prerequisite: course 5C or consent of instructor. An introduction to problem formulation, theory and method in archaeological research and the nature of research design. The focus is on how archaeological research is conceived and planned, with consideration of differing viewpoints and their usefulness. A scientific approach to logic and consideration is given to the relevance of archaeology to explaining variability and change in the adaptations of human populations. Mr. Hill

175B. Archaeological Research Techniques. Prerequisite: course 5C or consent of instructor. An introduction to the techniques of data gathering and analysis that archaeologists have found useful in research. Special attention is given to sampling techniques in survey and excavation, the techniques of artifact classification, classification and typology, problems in dating, locational analysis, the description of settlement systems, and the techniques for measuring parameters of prehistoric demography, specialization, exchange and warfare. Attention is also given to techniques for describing and explaining change. Mr. Hill

M175C. Dating Techniques in Environmental Sciences and Archaeology. (Same as Geography M178.) Prerequisite: consent of the instructor. Introduction to a variety of dating techniques, including radiocarbon, radiocarbon dating, radiocarbon decay methods, biological dating techniques and magnetic dating, and applications in environmental sciences, archaeology, and physical anthropology. Mr. Berger

175E. Laboratory Analysis in Archaeology. Lecture, two hours; laboratory, four hours. Prerequisite: consent of the instructor. Description and classification of archaeological collections cataloging, illustration, preparation of archaeological reports for publication. Mr. Meighan

M176. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Psychology M155.) Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Group and individual projects will be included. Some of the uses of observations and their implications for research in the social sciences will also be discussed.

Mr. Gallimore, Mr. Weinzer

177A. Field Methods in Linguistic Anthropology: Prerequisite: course 5C. A practical introduction to elicitation from informants for the purposes of analysis of phonological systems and development of practical transcription, as a preliminary to learning to speak the native language and to the recording of ethnographic materials in native language. Previous experience in linguistics is assumed. Mr. Kroskrity

177B. Field Methods in Linguistics Anthropology: Descriptive Semantics. Prerequisite: course 177A, or equivalent experience. The acquisition of techniques for conducting queries in the target language. The query techniques are intended to facilitate insight into semantic structure through examination of lexical and morphological systems, including morphological, syntactic, and lexical phenomena that occur in languages in relation to meaning. Use of eliciting procedures as supplemental, to other investigative techniques. Practice with informants. Mr. Kroskrity

178A. Museum Studies. Prerequisite: consent of instructor. Method and theory of museum operation. Acquisition, accession, storage, photography, conservation and exhibition are discussed and demonstrated. Museum research, publication, teaching as well as museum administration and funding are analyzed. Lectures and demonstrations are structured to illustrate how the various aspects of museum operation are interrelated.

Mr. Donnan and the Museum Staff

178B. Museum Studies. Prerequisites: courses 178A and consent of instructor. Two areas of museum operation are selected by the students from those discussed and demonstrated in Anthropology 178A. The student is then required to develop expertise in these areas through a combination of library research and a series of assignments carried out in the museum.

Mr. Donnan and the Museum Staff

178C. Museum Studies. Prerequisites: courses 178A-178B and consent of instructor. One area of museum operation is selected by the student from those demonstrated in Anthropology 178A. The student is then required to develop expertise in this area through the conduct of library research and a series of assignments carried out in the museum.

Mr. Donnan and the Museum Staff

179. Ethnography on Film. Intensive examination of filmed and written ethnographies of a wide range of cultures. The purposes of: (a) comparing visual with written data and evidence and (b) developing criteria for adequate written and film ethnography. Mr. Moerman

180. The Ethnography of Communication: Introduction and Practice. Prerequisites: upper division standing or consent of instructor. The course has two inter-related objectives: 1) to introduce students to the ethnography of communication—the description and analysis of situated communicative behavior—and the sociocultural knowledge which it reflects and 2) to train students to recognize, describe, and analyze the relevant linguistic, proxemic and kinesic aspects of face-to-face interaction.

Mr. Kroskrity

GROUP VIII. ANTHROPOLOGY AS A PROFESSION

This group contains historical surveys of anthropology or its subfields and courses concerned with professional preparation.

182A-182B. History of Anthropology. Prerequisite: upper division or Graduate Status. Permission of the instructor is required to take 182B without 182A. A systematic survey of the development of anthropology within the western academic tradition. Reviews major early concepts relevant to current anthropological issues and reviews institutional growth and development of the field.

Mr. Langness

183. History of Archaeology. The intellectual history of archaeology from the ancient world to the present. Although each of its major traditions is reviewed, particular attention is given to those branches of archaeology that have evolved during the last century within the discipline of anthropology.

Mr. Sackett

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

Mr. Williams

SPECIAL COURSES

199. Special Studies in Anthropology. (4 to 2 courses) Prerequisite: consent of the instructor. Two or more courses, equally applied to the two courses required for the major.

The Staff

Graduate Courses

Graduate students may take Linguistics 200F and 206B for credit; they will receive 6 units. A student majoring in anthropology must have consent of instructor. Ten units are required for the M.A. degree. ANY COURSE WITHIN A GROUP LABELED “SELECTED TOPICS” ARE NONREPETITIVE IN CONTENT AND MAY BE REPAIRED FOR CREDIT ON RECOMMENDATION OF THE GRADUATE ADVISER.

200-202. SEMINARS IN ANTHROPOLOGICAL LINGUISTICS

200. Anthropological Linguistics. (Formerly numbered 212.) Prerequisites: Linguistics 100 or its equivalent. The development of anthropological linguistics, modern linguistic theory and its application to the study of non-linguistic aspects of culture, including relationship of language to world view; comparative historical linguistics to pre-history, lexicostatistics, semantic analysis, linguistic acculturation, and socio- and ethnolinguistics. Mr. Kroskrity

M201A. Linguistic Anthropology I. (Formerly numbered M276A; same as Linguistics M246A.) Prerequisite: consent of instructor. Examination of the verbal interaction, emphasizing the use of conversational structures.

Mr. Moerman

M201B. Linguistic Anthropology II. (Formerly numbered M276B, same as Linguistics M246B.) Prerequisites: consent of instructor. Examination of the effects of sociolinguistic selection rules in phonology, prosody and syntax will be examined and the child's mastery of discourse types and discourse rules will also be considered.

Ms. Mitchell-Kernan

203. Linguistic and Intra-cultural Variation. Prerequisite: consent of the instructor. The course addresses the problem of variation as it impinges on the disciplines of Anthropology and Linguistics. Among the objectives of the course are the following: to acknowledge the importance of speech variation in anthropological linguistic research, to critically assess a broad and representative sample of modern scholarly devoted to the study of intra- and interindividual variation, and to evaluate the utility and potential applicability of recent trends to anthropological linguistics and anthropological theory. Mr. Kroskrity

205-210. SEMINARS IN ARCHAEOLOGY

205. Problems in Southwestern Archaeology. (Formerly numbered 290.) A consideration of prehistoric cultural diversity in the American Southwest, with emphasis on the description and explanation of organizational variability and change. Examination of the historical development of major theories, problems and methodologies.

Mr. Hill

M206A-206B. European Archaeology. (Formerly numbered M285A-285B; same as Indo-European Studies M250A-250B.) Prerequisite: consent of instructor. Credit is given only upon completion of
both quarters. The full sequence may be repeated for credit. Studies in ancient European archaeological materials, and their relationship to the Near East, Western Siberia, and Central Asia.

Ms. Gibbutas

210A. Analytical Methods in Archaeological Studies. (Formerly numbered 2740.) Prerequisites: One quarter of statistics and consent of instructor. This course will cover data analysis procedures in archaeology. The emphasis will be on the conceptual framework for the analysis of archaeological data. It will begin at the level of the attribute and end at the level of the region.

Mr. Read

210B. Analytical Methods in Archaeological Studies. (Formerly numbered 230B.) Prerequisite: consent of instructor. Anthropology 210A is not a prerequisite for this course. It courses survey analytical methods used in archaeology to study prehistoric settlement systems using survey data. Specific issues addressed include settlement distribution with respect to natural resources, settlement hierarchy patterns of exchange, warfare, and population movements.

Mr. Earle

214E-214J. SELECTED TOPICS IN ARCHAEOLOGY

214E. Prehistoric Nonagricultural Societies. (Formerly numbered 232.) Prerequisite: consent of instructor. Regional studies in the development of human culture. Mr. Meighan

214F. Problems in World Archaeology. (Formerly numbered 288.) Prerequisite: consent of instructor. Mr. Sackett

214G. Prehistoric Civilizations of the New World. (Formerly numbered 2769.) Prerequisite: consent of instructor. Mr. Donnan, Mr. Nicholson

214H. Historical Reconstruction and Archaeology. (Formerly numbered 286.) Prerequisite: consent of instructor. Interpretation of historical development through archaeological research. Application of ethnohistory to archaeological problems.

Mr. Meighan, Mr. Nicholson

231A. Dating Techniques in Environmental Sciences and Archaeology. (Formerly numbered 2296; same as Geography M278.) Prerequisite: consent of instructor. A colloquium devoted to topics in dating techniques in environmental sciences, archaeology, and physical anthropology as well as laboratory instruction and experimental work. May be repeated for credit.

Mr. Berger

214J. Field Training in Archaeology. (Formerly numbered 274J.) A practical course in archaeological excavation techniques, including organization of projects, supervision of field crews, methodology of field recording and preliminary analysis. The Staff

220-222C. SEMINARS IN PHYSICAL ANTHROPOLOGY

220. Current Problems in Physical Anthropology. (Formerly numbered 295.) A detailed examination of present problems of research by physical anthropologists in order to determine the direction and place of physical anthropology in the general discipline of anthropology.

The Staff

221A-221B. The Fossil Evidence for Human Evolution. (Formerly numbered 251A-251B.) Prerequisite: consent of instructor. Core 221A is a prerequisite to 221B. No credit will be awarded for course 221A without course 221B. An examination and analysis of the fossil evidence for man's evolution.

Ms. Kentucky

222A. Population Genetics of Man. (Formerly numbered 246A.) An introductory course in statistics. The study of population concepts, probability, the conditions of gene frequency equilibria and factors causing gene frequency change.

Mr. Williams

222B. Probability Models and Statistical Methods in Genetics. (Formerly numbered M246b; same as Biomathematics M246.) Prerequisites: graduate standing, two quarters of statistics, Mathematics 3A. Anthropology 222A. An introduction to probability models and statistical methods in genetics. Maximum likelihood methods for estimating genetic parameters will be introduced and discussed in detail. This course is a prerequisite for Anthropology 222C.

Mr. Read

222C. Modeling in Genetic Analysis. (Formerly numbered M246C; same as Biomathematics M207.) Prerequisites: graduate standing, course 222B, or consent of instructor. Basic concepts of human genetics with emphasis on methods of computer-oriented genetic analysis. Topics include segregation analysis, genetic linkage, polygenic (quantitative) models, and population structure.

Ms. Spence

229F-229F. SELECTED TOPICS IN PHYSICAL ANTHROPOLOGY

229F. Population Genetics. (Formerly numbered 281.) Prerequisite: consent of instructor. A consideration of some of the special methods of the genetics of human populations and their current application in research.

Mr. Williams

229G. Physical Anthropology Colloquium. (Formerly numbered 284.) To be graded on an SIU basis only. Special topics will be the status of current research in biological anthropology.

The Staff

230A-230B - M267C. SEMINARS IN SOCIO-CULTURAL ANTHROPOLOGY

230A-230B. Anthropological Theory. (Formerly numbered 210.) A course for Anthropology graduate students or consent of instructor. This course examines the range of theories that anthropologists have employed in describing and explaining socio-cultural 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. The course will be considered in the following: Evolutionism, Cultural Ecological, British Functionalism, French Functionalism, Structuralism, Cultural and Personality, Psychological Anthropology (Adorno, Neo-Freudian, Non-Freudian), Behavioral Anthropology, Cognitive Anthropology and Ethnosemantics.

Ms. Moore

231A. Social Anthropology. (Formerly numbered 220.) Intensive examination of current theoretical views and literature.

Ms. Moore, Mr. Mendonsa

232A. Structural Anthropology. (Formerly numbered 210.) Prerequisite: consent of instructor. Background in theoretical linguistics. Critical examination of structuralism, its relationship to earlier anthropological approaches, its affinity with theoretical linguistics, its contribution to current anthropological theory, and its utility as a powerful analytic framework in the field situation.

Mr. Hill

233. Social Movements and Social Crisis. (Formerly numbered 221.) Prerequisite: consent of instructor. The emergence of social movements of different types, with special reference to nationalist, reformist, political, etc., particularly as in situations of social conflict and crisis. Movements of rebellion and revolution examined in the light of sociological and sociological theory focusing on a broad range of problems.

Mr. Mendonsa

236. Urban Anthropology. (Formerly numbered 271.) Prerequisite: course 160 or consent of instructor. The Staff

237. Special Topics in Social Process. (Formerly numbered 279.) Prerequisite: consent of instructor. Selected aspects of the literature on social and cultural process. The significance of repeated and/or cumulative sequences of events in a variety of social settings and groups. Prehistoric data compared with normative concepts and ideal models.

Ms. Moore

241. The Cultural Context of Health Care. (Formerly numbered 216.) Prerequisite: consent of instructor. Concepts and treatment of illness and disease in cross-cultural perspectives, with an emphasis on research problems and methods. The course introduces the anthropological approach to health-related research, then explores the interaction of anthropology and health issues, including health and health policy (such as epidemiology, fertility regulation, socialization, and developmental disabilities).

Mr. Johnson

243A. Anthropological Approaches to Law. (Formerly numbered 223A.) Prerequisite: consent of instructor. Law and politics in non-industrial societies considered with an eye to analogous processes in industrial society. The articulation of local and larger scale organization. Forms of organization and regulation compared with operating realities. Arenas of regulation, competition, dispute and negotiation examined. Work of law by anthropologists reviewed.

Ms. Moore

244. Transcultural Psychiatry. (Formerly numbered 234.) Prerequisite: consent of instructor. Consideration of psychiatric topics in cross-cultural perspective, such as studies of drug use, deviance, suicide, homicide, behavioral disorders, "culture specific" syndromes, non-Western psychiatry, and the functioning of "sick" societies.

Mr. Kennedy

245. Cultural Modes of Thought. (Formerly numbered 248.) Prerequisite: consent of instructor. An examination of the influences of culture on learning, thinking, feeling, and behavior. Emphasis on culture as a source to cover the fields of cross-cultural psychology in addition to cognitive anthropology. The focus is on learning and thinking in non-Western cultures but would include problems of education in ethnic areas within the U.S.

Mr. Price—Williams

246. Comparative Studies of Socialization. (Formerly numbered 278.) Selected topics in the cross-cultural study of socialization and child training. Methods, ethnographic data, and theoretical orientations. Emphasis on current research.

Mr. Weisner

247A. Ethnographic Film. (Formerly numbered 254A; same as Theater Arts M209C.) Prerequisite: graduate standing and consent of instructor. The ethnographic film as a form of realist cinema and its relations to cultural anthropology.

Mr. Hawkins, Mr. Moerman

250. Indians of South America. (Formerly numbered 207.) Survey of the literature and problems of the anthropology of South America. Concurrently scheduled with Latin American Studies 250A.

Mr. Wilbert

251. Cultural Ecology of Lowland South America. (Formerly numbered 253.) Prerequisite: consent of instructor. Seminar on traditional adaptations to the lowland tropical environment and the impact of cultural processes on the tropical forest. Exploratory principles accounting for cultural differences are explored and special attention is given to effects of modern change on the environments and cultures involved.

Ms. Kentucky

252A. South American Folklore and Mythology Studies. (Formerly numbered 257.) Prerequisites: course 105A or consent of instructor. An examination of oral traditions and related ethnological data from various South American Indian societies against the background of the religious beliefs and practices of these people.

Mr. Wilbert

253. Asian-Americans: Personality and Identity. (Formerly numbered 209.) Prerequisite: graduate standing. This seminar will examine the effects of class, caste and race on the Asian American per-
sonality within the framework of anthropological theories. Mr. Wagatsuma

254. African Cultures. (Formerly numbered 208.) Survey of literature and problems of African culture. Mr. Mendonsa, Ms. Moore

255. Cultures of the Middle East. (Formerly numbered 214.) Prerequisite: course 110 or consent of instructor. Survey literature and problems of the various cultures of the Middle East. The Staff

M260. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Formerly numbered M213; same as Psychiatry M235.) 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. Mr. Gallimore, Mr. Weiner

261A-261B. Research Methods and Procedures. (Formerly numbered 274A-274B.) Prerequisites: consent of instructor. Survey literature and problems of the various research methods in anthropology. Each part may be taken independently. Mr. Johnson

262A. Methods in Psychological Anthropology. (Formerly numbered 274A.) Prerequisite: consent of instructor. Methods for studying personality, motivation, socialization in field work. Includes naturalistic interviewing, unobtrusive measures, participant observation, and excludes standardized testing procedures. Field exercises using various methods are integral to the seminar. Mr. Weiner

262B. Methods in Psychological Anthropology. (Formerly numbered 274B.) Prerequisite: consent of instructor. Adequate background in psychology in field of personality, clinical psychology and psychological testing. This course deals with diverse standardized tests applicable in cross-cultural research. The concept of isomorphism, and of the interaction of personality, perception, cognition, and mental health as applicable to non-Western and particularly primitive cultures. Mr. Edgerton

263. Analysis of Field Data. (Formerly numbered 291.) Prerequisite: course 265 or other field training course approved by the Staff. Analysis of anthropographic 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 publications. The Staff

265. Selected Topics in Field Training in Ethnography. (Formerly numbered 293A.) Prerequisite: consent of instructor. Supervised collection of ethnographic information in the field. Students will spend full time in the field for most of the quarter. The Staff

266. Practicum in a Field Language. (Formerly numbered 293B.) Prerequisite: consent of instructor. Intensive training in an indigenous language as preparation for work in the field. The Staff

M267B-267C. Ethnographic Film Direction. (Formerly numbered M267B-267C; same as Theater Arts M265A-265B.) Prerequisite: course 209C, graduate standing and consent of instructor. Advanced study of problems in the production of ethnographic film. M267B is offered in the fall quarter and M267C is offered in the spring quarter. Mr. Hawkins, Mr. Moerman

269E-270E. SELECTED TOPICS IN SOCIO-CULTURAL ANTHROPOLOGY

269E. Cultural Anthropology. (Formerly numbered 263.) Prerequisite: consent of instructor. Mr. Goldschmidt

269F. Ethnology. (Formerly numbered 261.) Prerequisite: consent of instructor. Mr. Wilbert

269G. Social Anthropology. (Formerly numbered 262.) Prerequisite: consent of instructor. Mr. Mendonsa, Ms. Moore

269H. Cultural Ecology. (Formerly numbered 264.) Prerequisite: consent of instructor. Mr. The Staff

269I. Individual and Culture. (Formerly numbered 272A-272B.) Prerequisite: consent of instructor. Course 269I is prerequisite to 269J. Credit to be given only at the completion of 269J. Mr. Edgerton

269J. Culture and Personality. (Formerly numbered 274.) Prerequisite: consent of instructor. The course will deal with theories of the relationship of personality to the context of cultural life: cultural aspects of individual growth and development and methodological problems in the study of cultural effects of individual character and personality. May be repeated for credit. The Staff

269L. Economic Anthropology. (Formerly numbered 269L.) Prerequisite: consent of instructor. The Staff

269M. Kinship. (Formerly numbered 267.) Prerequisite: consent of instructor. Mr. Mendonsa

269N. Medical Anthropology. (Formerly numbered 271M; same as Nursing M217.) Prerequisite: course 158 or consent of instructor. Any of the topics covered in upper division course 158 will be selected from upper division literature and examined in a critical review and independent projects. The course may be repeated for credit. Ms. Brink

269O. Comparative Minority Relations. (Formerly numbered 211.) Prerequisite: consent of instructor. An analysis of the major theoretical and methodological issues in the study of minority relations from a comparative perspective. Consensus, conflict, and pluralistic constructs will be analyzed and strengthened as explanatory devices investigating as they pertain to dependent populations in North America, Latin America, Southern Africa, India, Asia, and the Euro-Slavic continent. Mr. Velez

269P. Symbolic Anthropology. (Formerly numbered 260.) Prerequisite: consent of instructor or course 144. Nature of symbolic relations (as distinguished from other referential ones), significance of symbolic systems (in terms of action, cognition, affectivity, contemplation), symbolic and ritual, culture and ideology in improving on cultural reality. Mr. The Staff

269R. Aesthetic Anthropology. (Formerly numbered 250.) Prerequisites: course 144 or consent of instructor. Selected questions concerning the visual aesthetic phenomena in their relationships with the social-cultural context will be examined in depth. Mr. Maquet

269S. Comparative Studies of Intentional Communication. (Formerly numbered 277.) Prerequisite: course 157 or consent of instructor. Questions concerning the ideational, societal, and individual significance of intentional communities will be selected and discussed in depth with reference to the particular collectivities. Mr. Maquet

269T. Comparative Political Institutions. (Formerly numbered 268.) Prerequisite: consent of instructor. Ms. Moore

269U. African Cultures. (Formerly numbered 258.) Prerequisite: consent of instructor. Mr. Mandonsa, Ms. Moore

269V. Arctic Cultures. (Formerly numbered 256.) Prerequisite: consent of instructor. Mr. Okwalt

269W. Culture and Personality of Japan. (Formerly numbered 206.) Prerequisites: course 103C or consent of the instructor. Specific topics pertaining to the study of sociocultural patterns, role behavior, psychological characteristics, social deviance or psychopathology of the Japanese will be selected and discussed. Each student will be required to select a topic and carry out the research library work, while consulting with the instructor and participating in group discussion. Mr. Wagatsuma

269X. Cultures of the Middle East. (Formerly numbered 265.) Prerequisites: course 110 or consent of instructor. The Staff

269Y. Cultures of the Pacific Islands. (Formerly numbered 254.) Prerequisite: consent of instructor. Mr. Newman

269Z. Ethnography of the Mexican/Chicano People in North America. Prerequisites: graduate standing or consent of instructor. It is recommended that students have taken the Comparative Ethnography of the Hispanic Peoples in North America but it is not imperative. A graduate research course on topics in the ethnography of the Mexican/Chicano people in North America. Topics may include the following: Social organization, economic and political systems, belief and value systems, linguistic and expressive adaptations, and individuals and their cultural contexts. Topics will vary according to interest and the instructor will announce the topics prior to the beginning of the quarter. Mr. Velez

M270E. Legal Anthropology. (Same as Law M352.) Prerequisites: Anthropology M223 (Law M152) Anthropological Approaches to Law or consent of instructor. An intensive examination of a particular aspect of law. Mr. Ms. Moore, Mr. Velez

270F. Social Interaction. Prerequisite: consent of instructor. The course will focus on issues for ethnographic theory and practice raised by developments in anthropological, sociological, psychological, linguistic, and ethological contributions to our understanding of the organization and face-to-face behavior. Mr. Moerman

290-294. SEMINARS IN GENERAL ANTHROPOLOGY

290A-290B. Departmental Faculty Seminar. (Formerly numbered 290A-290B.) Prerequisites: graduate status, or permission of instructor. Each weekly three hour meeting will be devoted to the current research of a different faculty member.

291. The Roots of Human Behavior. (Formerly numbered 299.) Prerequisite: consent of instructor. An examination of the living non-human primates and of the evolution and biological basis of human behavior. The Staff

292. Mathematical Models in Anthropology. (Formerly numbered 292.) Prerequisite: consent of instructor. A broad survey of current work in the use of mathematical models and methods in anthropological research. The Staff

293. Evolutionary Approaches to Anthropology. (Formerly numbered 293.) Prerequisite: graduate standing. Evolutionary approaches to explanation in biological anthropology and cultural anthropology. Relations between materialist perspectives and evolutionary theory and the influence of evolutionary biology on anthropology. The status of evolutionary studies in cultural anthropology. Mr. Williams

294. The Profession of Anthropology. (Formerly numbered 293.) Prerequisite: consent of instructor. An examination of the professionalization of anthropology, its historic growth, its organization, changing patterns of employment, ethical problems peculiar to the discipline, specialty demands and requisites for professional performance. Seminar occasionally approved by special permission. Mr. Goldschmidt

501. Cooperative Program. (4 to 2 courses) Prerequisite: approval of UCLA Adviser and Graduate Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The course is
used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

596. Individual Studies for Graduate Students. (4 to 2 courses)

597. Preparation for the Doctoral Qualifying Examination. (1 to 3 courses)

599. Research for Dissertation. (1 to 3 courses)

Ph.D. dissertation research or writing. Student will have completed qualifying examination and ordinarily will take no other course work.

The Staff

**APPLIED LINGUISTICS (INTERDEPARTMENTAL)**

(Program Office, 3306 Rolfe Hall)

Ph.D. in Applied Linguistics

The doctoral program in applied linguistics is administered by an interdepartmental committee of six members, three from the Department of Linguistics and three from the ESI English (Second Language) Section of the Department of English. The courses around which the program is built are taught by all members of the ESL and Linguistics faculties as well as certain members of related departments such as Anthropology, Education, Psychology, Sociology and various foreign languages.

The goal of the program is to prepare students to apply relevant elements of linguistics, psycholinguistics, and sociolinguistics to the solution of practical problems of language use and language teaching. This is to be achieved by providing them with the broad background of information and the investigative skills needed for teaching at the university level, for program planning, and for effective research.

Four areas of specialization are available: language analysis, language education, language acquisition, and language use. The specialization in language analysis is designed to prepare researchers to present to students significant data on languages the researchers know well; to construct school grammars, dialect atlases, descriptive phonologies, contrasting language use in different social contexts to carry out similar empirically oriented pursuits. The specialization in language education concerns various forms of language instruction: English as a second or foreign language, the teaching of other languages, and language teaching as a part of general or special education. It is designed to prepare graduates competent to serve in the areas of curriculum development, language consultation, language testing, materials development, and to carry out similar empirically oriented pursuits. The specialization in language acquisition involves psycholinguistics. It refers to both child-language acquisition and second-language acquisition. It is intended to equip students to conduct research on language learning in clinics, laboratories, classrooms, and also in informal natural settings. The specialization in language use relates generally to sociolinguistics, and specifically to language planning, language maintenance, and revitalization. It is intended to enable students to carry out studies of language use both at home and abroad, as well as to the analysis of discourse. It is aimed at the development of competence in such areas as educational consultation, program planning and evaluation, language surveys, and literacy campaigns.

**Admission to the Program**

The basic requirement for admission is the completion of the UCLA master's degree in Teaching English as a Second Language or in Linguistics, or else 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) may need to make up a large number of course deficiencies. Unless much of their previous work can be shown to be particularly applicable to one of the four areas of specialization, it will be advisable for them to complete the UCLA M.A. in Linguistics or TESL before seeking admission to the Ph.D. program.

Other criteria that will be taken into consideration in admitting students include their graduate and undergraduate grade-point averages, their relevant professional experience, their command of foreign languages, the quality of their M.A. thesis, and any language-related publications they may have written. Beginning with the Fall of 1980, applicants whose mother tongue is English shall take the ACTFL Oral Proficiency Interview. The ACTFL Written Proficiency Interview and have the grade sent to the UCLA Graduate Admissions Office for inclusion in their dossiers. Information regarding the procedures to be followed in applying for admission is available from the Program Office.

**Applications for admission for the Fall Quarter in September**

To insure their admission, Ph.D. aspirants must enroll at UCLA in a quarter at which they were admitted. If they cannot do so, it will be necessary for them to reapply for a subsequent quarter, and there is no assurance that they will be given preference at that time.

The doctoral program in applied linguistics is the comple-

**Requirements for the Ph.D. Degree**

In addition to fulfilling the general University requirements for the doctorate, 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 may be applied to the Ph.D. program as long as possible and before advancement to candidacy for the degree:

- Linguistics 120A (Linguistic Analysis: Phonology), 120B (Linguistic Analysis: Grammar), 165A (Structural Linguistics), and 165B (Linguistic Theory: Grammar).
- English 370K (The Teaching of English as a Second Language), 250K (Contrastive Analysis and Error Analysis in the ESL Context), and 380K (Supervised Teaching: Elementary ESL). All courses must be taken for letter grades.
- English 390K, which is organized as a general orientation to the ESL Section, must be taken at UCLA. A student who can establish that he has taken courses equivalent to any of the remaining substitutions will not be required to take them at UCLA. If he has at least one year of experience in teaching ESL, he can be exempted from English 380K.

**Foreign Languages.** Before advancement to candidacy for the degree, students must demonstrate a knowledge of two foreign languages at the effective level. For one language, an effective oral proficiency may, in the opinion of his advisor, be demonstrated instead of a reading knowledge. The languages chosen should be especially relevant to the student's intended dissertation topic or professional plans. A student whose mother tongue is English should take a proficiency examination in his mother tongue. For the other language, effective knowledge of two foreign languages at the effective level will be required. Students who have at least one year of experience in teaching ESL, and who can establish that they have taken courses equivalent to any of the foreign-language requirements listed below, may be exempted from this foreign-language requirement.

Language-proficiency examinations for the Ph.D. in Applied Linguistics are administered by a special ad-hoc committee. Information regarding the nature and administration of these examinations is available from the Program Office.

**Units and Courses.** All candidates must take at least 32 units of graduate-level course work (in the 200 or 500 series). These 32 units may not include courses taken as prerequisites to the M.A. courses listed above as basic preparation. Linguistics 275, English 400K, or Applied Linguistics 599. No more than eight of the 32 units may be in 596 individual-study 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. An additional two courses are required in the specialization in which the candidate chooses to do his dissertation research. Thus a student who opted for a dissertation in language acquisition would take at least one course 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 Ph.D. program may be applied to the fulfillment of the 8-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 in the specialized areas of the Ph.D. and preferably taken within the framework of UCLA's course Applied Linguistics 501.

Within the limits imposed by the Graduate Division, 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 599, English 400K, and Linguistics 275 may be taken on a Pass/Fail/Unsatisfactory basis. All other courses must be taken for letter grades.

**Examinations.** In lieu of a written qualifying examination, the student will submit two original research papers of publishable quality in different areas of specialization. These may be revised or extended versions of papers already published. Each paper must be prepared after admission to the Ph.D. program. (If the student at the time of his admission has already published papers of the required quality, he may petition to have one paper accepted in partial fulfillment of this requirement.) The topics of these papers are to be chosen by the student, in consultation with appropriate faculty members and with the approval of the Ph.D. Program Advisor (chairman of the dissertation committee in the case of students in the program). Each of the finished papers is evaluated by two faculty members chosen by the student in consultation with the Ph.D. Program Advisor. Any paper or papers judged unsatisfactory by either of the two readers must be revised to that reader's satisfaction. For each paper one of the two readers may be from outside Linguistics and ESL, and one of the two must be willing to serve on the student's doctoral committee.

At this point the doctoral committee for the student is nominated by the Ph.D. Program Advisor after consultation with the student, and is then appointed by the Dean of the Graduate Division. The doctoral committee must have a minimum of five members, two of whom hold no appointment in Linguistics or ESL. Upon appointment, the chairman of the doctoral committee becomes the student's chief source of guidance. The doctoral commit-tee administers to the student an oral candidacy examination, the focus of which will be a prospectus of his dissertation which the student must submit to the committee prior to the examination. The committee also has the responsibility for determining the adequacy of the student's preparation for writing the dissertation. If prospects and preparation are judged adequate, the choice of the dissertation topic is thereby approved and the student becomes eligible for advancement to doctoral can-
didacy. In case of failure, the doctoral committee determines whether or not the candidate may be examined again, and if further courses must be taken before the reexamination.

**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. A minimum of three members of the doctoral committee must be appointed by the committee chairman and approved by all commit-

NOTE: For key to symbols, see page 74
As the dissertation nears completion, all candidates must make a public report on the results of their research. This may be done at the candidate's choice, at a meeting of the colloquium of either the Department of Linguistics or the ESL Section. Each candidate must, therefore, enroll in either English 400K or Linguistics 275 during the appropriate quarter. All members of the doctoral committee who will read the dissertation will attend the colloquium session at which the public report is made and will then determine whether or not the candidate will be required to pass a final oral examination. Only by a unanimous vote of the readers can the final oral be waived. The Graduate Division requires that, if a final oral examination is held, all members of the doctoral committee must attend and vote. Even if no final oral examination is held, the readers of the dissertation must still determine in the usual way whether or not the dissertation is finally approved after it has been completed.

Normal Progress Toward the Degree

From first enrollment in doctoral program to advancement to candidacy: two to three years. From first enrollment to completion of degree: three to five years. The outside limit for the Ph.D. from start to finish, including leaves or interruptions of any kind, is seven calendar years from first enrollment. If a student has not been awarded the degree by the end of seven years, it will be the responsibility of the Program Advisor to request that the Dean of the Graduate Division disqualify that student from further participation in the Program. The disqualification of a student for other reasons may be requested if a majority of his doctoral committee so votes. Disqualification for any reason may be appealed to the interdepartmental committee which administers the program.

Financial Aid

For enrollees in the doctoral program a limited amount of financial support is available in the form of scholarships, tuition waivers, and teaching assistantships. Application forms can be obtained from the Fellowships and Assistantships Section of the Graduate Division.

Approved Courses

This is a partial listing of the courses that are acceptable in fulfillment of the Ph.D. course requirement for the doctoral degree. Other courses may be approved by the Ph.D. Program Advisor. For some of the listed courses there may be undergraduate prerequisites which will not count for credit toward the degree. The list will be periodically reviewed by the interdepartmental committee which administers the program.

Language Analysis

**English**
215. The Structure of Present-Day English.
241. Studies in the Structure of the English Language.

**Linguistics**
201. Phonological Theory.
204. Experimental Bases of Linguistics.
206. Syntactic Theory.
210A-B. Field Methods.
220. Linguistic Areas (such as Africa, Southeast Asia, and Aboriginal North America).
225. Linguistic Structures (such as Germanic, Japanese, and Malay-Polynesian).
251A-B. Topics in Phonetics and Phonology.
252A-B. Topics in Syntax and Semantics.
253A-B. Topics in Linguistic Variation (when content is relevant).
254. Topics in Linguistics.

**Spanish**
256A. Studies in Linguistics.

**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 (All these courses are highly recommended for statistical work, but only two of them will be counted toward fulfillment of the 8-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**

210K. Role of ESL in Bilingual Education.
215. The Structure of Present-Day English.
251. Bilingual Comparative Studies.
261K. Language Testing for Teachers of English as a Second Language.
270K. Language Policy in Developing Countries.

240. Developmental Psychology.
254. Topics in Linguistics.

**Psychology**
257A-B-C. Diagnostics and Therapeutics of Language Disabilities.
260K. Psycholinguistics and Language Teaching.

**Linguistics**

254. Topics in Linguistics.

**Psychiatry**
257A-B-C. Diagnostics and Therapeutics of Language Disabilities.

**Sociology**

216A-B. Survey Research Methods.
217A-B. Ethnographic Field Work.
238A-B. Field Work in Minority Communities.

**Spanish**

209. Dialectology.
260A-B. Seminar: Language Arts and English.
262B. Seminar: Reading.
264. Seminar: Research Topics in Bilingual Multicultural Education.
266. Selected Problems in the Analysis of Conversation.
267. Selected Problems in Communication.

**Graduate Courses**

501. Cooperative Program. (4 to 2 courses) Prerequisite: approval of Ph.D. Program Advisor and Graduate Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

596. Directed Individual Study. (1 to 2 courses) Prerequisite: admission to doctoral program. Independent study in an area of Applied Linguistics. May be repeated for credit. Up to eight units of 596 credit applicable to course requirements for Ph.D. in Applied Linguistics.

599. Research for and Preparation of the Doctoral Dissertation. (1 to 4 courses) Prerequisite: advancement to candidacy for the Ph.D. degree. Required of all doctoral candidates each quarter they are registered and engaged in dissertation preparation. May be repeated for credit, but may not be applied towards fulfillment of Ph.D. course requirements. To be graded S/U.

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**ARCHAEOLOGY (INTERDEPARTMENTAL)**

Alexander Badawy, Ph.D., Professor of Art; C. Rainer Berger, Ph.D., Professor of Geography and Geophysics; Giorgio Buccellati, Ph.D., Professor of Ancient Near East (Department of Near Eastern Languages and Cultures) and History; Maria Gomiatzis, Ph.D., Professor of European Archaeology (Department of Slavic Languages); James N. Hill, Ph.D., Professor of Anthropology; Clement W. Meighan, Ph.D., Professor of Anthropology; Henry B. Nicholson, Ph.D., Professor of Anthropology; Wendell H. Oswald, Ph.D., Professor of Anthropology; Merrill F. Pocanszky, Professor of African History and Archaeology (Department of History); J. Roy Davison, Ph.D., Emeritus Professor of Art; Katherine Otto-Dorn, Emeritus Professor of Islamic Art; Richard C. Rudolph, Ph.D., Emeritus Professor of Oriental Languages; Hung-hsiung Chou, Ph.D., Associate Professor of Oriental Languages; Christopher B. Donnan, Ph.D., Associate Professor of Anthropology; Susan B. Downey, Ph.D., Associate Professor of Art; Steven Lattimore, Ph.D., Associate Professor of Classics and Classical Archaeology; Dwight Reed, Ph.D., Associate Professor of Anthropology; James R. Sackett, Ph.D., Associate Professor of Anthropology; Elizabeth Carter, Ph.D., Assistant Professor of Near Eastern Archaeology (Department of Near Eastern Languages and Cultures); Timothy Earle, Ph.D., Assistant Professor of Anthropology; Gail Kendall, Ph.D., Assistant Professor of Anthropology.

Paul A. Clement, Emeritus Professor of Classics and Classical Archaeology; Jay D. Frierman, M.A., Lecturer in Near Eastern Archaeology (Department of Near Eastern Languages and Cultural Bernard D. Friacher, Ph.D., Assistant Professor of Classics; Cecelia F. Klein, Ph.D., Assistant Professor of Art; Deborah Klimburg-Salter, Ph.D., Assistant Professor of Art; Kan Lao, Academician, Emeritus Professor of Oriental Languages; Will F. Libby, Ph.D., Emeritus Professor of Geophysical Martin Powers, Ph.D., Acting Assistant Professor of Art; Arnold Rubin, Ph.D., Associate Professor of Art; Stanislav Segert, Ph.D., Professor of Biblical Studies and Near-West Semitics (Department of Near Eastern Languages and Cultures).

An interdepartmental committee administers graduate degree programs leading to the M.A. and Ph.D. in Archaeology; in addition to the individual departmental programs in which archaeological specialization is possible. There is no undergraduate program in Archaeology leading to a B.A. degree.

As outlined in the Program's "Guidelines" brochure, which will be sent to applicants upon request, the interdepartmental degree requires a planned program of graduate study in two or more departments. The Archaeology Program has two tracks, one of which the applicant must select as part of the application for admission:
(1) Interdisciplinary, in which students take half of their courses in departments not offering archaeology; failure to do so will result in the student not being able to complete all of their courses in departments offering archaeology. It is estimated that roughly half of the students admitted will be on either track, although no firm ratio is to be established. Those students working in archaeology must be largely within a single department (in such fields as ancient history, anthropology, art history, classics, Indo-European studies, Near Eastern languages and cultures, and Oriental languages) should refer to the separate degree program offered by the appropriate department. The graduate advisers for the Archaeology Program and for the various departments will provide counseling to ensure that each applicant meets the departmental ongoing (and degree objective) best suited to his/her interests.

Active archaeological research is underway in various parts of the world, and field training in archaeology is offered. There are opportunities for participation in a variety of laboratory and field researches in both the Old and New Worlds. Guidance for students interested in Contract Archaeology is available (see statement following the course listings).

Graduate Adviser: James N. Hill

Admission to Graduate Status

For general requirements, see the Graduate Division section. Any undergraduate major will be considered for admission into the program. The minimum Grade Point Average required for admission is 3.0. Examination (SAT) Report is mandatory. The following application materials must be submitted directly to the Chairman of the Archaeology Program: an acceptable Plan of Study (including a statement of the applicant's objectives, an outline of projected course work and a general indication of an M.A. paper or dissertation topic); three letters of recommendation; a research paper preferably but not necessarily relevant to archaeology, or comparative evidence of scholarly work. Applicants are accepted for admission for the Fall Quarter only.

Requirements for the M.A. degree in Archaeology

1. Nine 4 unit courses (taken for a letter grade) are required, distributed as follows: 1 Archaeology 200, 2 Archaeology 596, 3 elective upper division courses (any 199 may be included), 3 elective graduate courses in the 200 series. No more than any 3 of the 9 courses may be offered by the same department.

2. Core Examination: During the 4th quarter of residence, a comprehensive core examination (6 hours) based on a list of readings (approximately 30 volumes) submitted by faculty members and designed to ensure that students master that body of knowledge considered to be of importance in the education of any professional archaeologist. The examination may be repeated one time.

3. Proficiency in one foreign language (for which there is a relevant scholarly literature) must be demonstrated by the end of the sixth quarter, unless an earlier deadline is imposed by the student's adviser. Additional language skills may be required depending on the field of specialization; this will be decided by the student's committee.

4. Field Work: All students receiving the M.A. in archaeology must demonstrate practical knowledge of methods and techniques used in archaeological field work, and must be able to relate this knowledge to relevant theoretical and general methods courses. This requirement may be met in several ways; the general standard is that no graduate degrees will be awarded to archaeologists until they have field experience and are competent to conduct field research in archaeology.

5. By the end of the third week of the 7th quarter, the student must submit an acceptable M.A. paper to the Chairperson of the Archaeology Program. In addition, all requirements of the Graduate Division (residence, unit patterns, etc.) must be met. Consult the Graduate Division brochure, Standards and Procedures for Graduate Study at UCLA.

6. There is a ceiling of 7 quarters for the completion of all work for the M.A. degree.

Requirements for the Ph.D. degree in Archaeology

1. M.A. degree from an appropriate program (which may or may not involve archaeological training).

2. Proficiency in at least one foreign language, as determined by the student's committee.

3. Field work requirement (as in M.A. Program, item #4 above, unless it has already been satisfied).

4. Written qualifying examination—by the fourth quarter in the doctoral program the student must pass a written qualifying examination in at least the following three fields: a) Topical or problem specialization; b) Analytical Theory, Method and Technique; c) Regional culture history.

5. Oral qualifying examination—to be passed by the 6th quarter of the doctoral program.

6. A doctoral dissertation which will embody the results of original research and constitute a contribution to knowledge.

7. Time limit—there is a ceiling of 14 quarters (4-2/3 calendar years) for completion of all work towards the Ph.D. degree, including the dissertation.

Course Listings

All of the courses listed, only Archaeology 200 is required. Other courses are listed simply to provide prospective applicants with information regarding course offerings in the Archaeology Program itself, and in the various departments that offer archaeology or archaeology-related courses. It is not feasible, to list the many courses offered by other departments or disciplines. U.C.L.A., even though many such courses will be relevant to individual programs of study.

Graduate Courses

Prerequisite for all courses: consent of the instructor. All courses may be repeated for credit upon recommendation of adviser. Of the following graduate courses only Archaeology 200 is required.

200. Archaeology Colloquium. (1 to 2 courses) Prerequisite: consent of instructor. The development of archaeology as a discipline. Major intellectual trends and current issues in archaeology. Scientific and humanistic viewpoints presented by archaeologists from different academic departments. May be repeated for credit; however, M.A. candidates may apply this course only twice toward fulfillment of the departmental M.A. requirements.

259. Field Work in Archaeology. (1 to 2 courses) Participation in archaeological field excavations or museum research under supervision of staff archaeologists. A minimum of one month of field time away from the campus is required.

Individual Study and Research

596. Individual Studies for Graduate Students. (1 to 2 courses) Hours to be arranged. Prerequisites: consent of the instructor.

597. Preparation for Doctoral Qualifying Examinations. (1 to 2 courses) Prerequisite: completion of formal course work and passing of language examinations before enrollment. Graded S/U.

598. M.A. Thesis Preparation. (1 to 2 courses) Prerequisite: consent of the instructor. Graded S/U.

599. Dissertation Research and Preparation. (1 to 2 courses) Prerequisite: consent of the instructor. Graded S/U.

Related Courses in Other Departments

Most archaeology courses are taught in the various departments. The following is a listing of such courses, by topic and department. They are listed here for reference; students should consult the departmental course lists for full descriptions and prerequisites. No attempt is made to list relevant courses in other disciplines.

Methodology and History

Anthropology 111A-111B. Fossil Man and His Cultural History.

112. Hunting and Gathering Societies.

122C. Technology and Environment.

156. Cultural Ecology.

170A. Field Training.

171A. Lab Methods in Physical Anthropology.

172. Methods and Techniques of Ethnology.


174. Laboratory Methods in Technology and Invention.

175A. Strategy of Archaeology.

175B. Archaeological Research Techniques.

M175C. Dating Techniques in Environmental Sciences and Archaeology (same as Geography M178).

175E. Laboratory Analysis in Archaeology.

178A-178B-178C. Museum Studies.

183. History of Archaeology.


214H. Selected Topics in Historical Reconstruction and Archaeology.

M214L. Selected Topics in Dating Techniques in Environmental Sciences and Archaeology (same as Geography M279).

214L. Selected Topics in Field Training in Archaeology.

221A-221B. The Fossil Evidence for Human Evolution.

234. Explanation of Societal Change.

261B. Research Methods and Procedures.

263. Analysis of Field Data.

269H. Selected Topics in Cultural Ecology.


Art 265. Field Work in Archaeology.

Engineering 149C. Properties of Art Ceramic Materials.

149E. Ceramic Materials in History and Archaeology.

Near Eastern Languages and Cultures: Ancient Near East 261. Practical Field Archaeology.

New World

Anthropology 106B. Peoples of California: Prehistory.

106C. Peoples of North America.

106D-106E. Archaeology of North America.

123C. Ancient Civilizations of Western Middle America. (Nahualt Sphere)

123D. Ancient Civilizations of Eastern Middle America. (Maya Sphere)

123E. Ancient Civilizations of Andean South America.

205. Problems in Southwestern Archaeology.

214E. Selected Topics in Prehistoric Non-lndigenous Societies.

214G. Selected Topics in Prehistoric Civilizations of the New World.

269V. Arctic Cultures.

Art 117A. Advanced Studies in Pre-Columbian Art: Mexico.

NOTE: For key to symbols, see page 74
117B. Advanced Studies in Pre-Columbian Art: Central America.
117C. Advanced Studies in Pre-Columbian Art: The Andes.
118A. The Arts of Oceania.
118B. The Arts of Pre-Columbian America.
180D. The Arts of Native North America.
217. Topics in Oceanic Art.
218. Topics in Pre-Columbian Art.
220. The Arts of Africa, Oceania, and Pre-Columbian America.

OLD WORLD – EUROPE

Anthropology 109 Old Stone Age Archaeology.
M206A-206B. Seminar in European Archaeology. See Indo-European Studies M250A-250B.
214F. 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.
222A-222B. Greco-Roman Art.
223. Classical Art.

Classics 151A. Classical Archaeology: Graeco-Roman Architecture.
151B. Classical Archaeology: Graeco-Roman Sculpture.
151C. Classical Archaeology: Graeco-Roman Painting.
251A-251D. Seminar in Classical Archaeology.
252. Topography and Monuments of Athens.

Indo-European Studies 131. European Archaeology: Proto-Civilizations of Europe.
132. European Archaeology: The Bronze Age. Same as Anthropology M206A-206B.

OLD WORLD – NEAR EAST

Anthropology 123. Origins of Old World Civilization.
102. Art of the Ancient Near East.
210. Egyptian Art.
211. Topics in Egyptian Art.

History 105A-105B. History of Ancient Mesopotamia and Syria.
124C. Religions of the Ancient Near East.
140A-140B. History of Ancient Mesopotamia and Syria.
193D. Religions of the Ancient Near East.
200. Advanced Historiography.
201. Topics in History.
203. History of Ancient Egypt in the Late Period.
240J. Near Eastern History.

161A-161B-161C. Archaeology of Pre- and Proto-Historic Mesopotamia.
162. Archaeology of Palestine.
163. Archaeology of Iran.
164A-164B-164C. Archaeology of the Historic Periods in Mesopotamia.
220. Seminar in Ancient Egypt.

250 Seminar in Ancient Mesopotamia.
250X. Seminar in Ancient Mesopotamia.
260. Seminar in Ancient Near Eastern Archaeology.
262. Seminar in Object Archaeology.

OLD WORLD – ISLAM

Art 104B-104C-104D. Architecture and the Minor Arts of Islam in the Middle Ages.
212. Problems in Islamic Art.
213. Problems in Islamic Art.

OLD WORLD – AFRICA

Art 118C. The Arts of Sub-Saharan Africa.
119A. Advanced Studies in African Art: Western Africa.
119B. Advanced Studies in African Art: Central Africa.
216. Topics in African Art.
220. The Arts of Africa, Oceania, and Pre-Columbian America.

History 125A. History of Africa.
175A. Topics in African History.
197. Undergraduate Seminar.
201. Topics in History.
240. Africa and The Indian Ocean.
240N. Archaeological Background to West African History.
276. African Archaeology-Field Techniques.
277. African Archaeology-Data Analysis.

OLD WORLD – INDIA AND THE FAR EAST

Art 114A. The Early Art of India.
114B. Chinese Art.
114C. Japanese Art.
115A. Advanced Indian Art.
115B. Advanced Chinese Art.
115C. Advanced Japanese Art.
259. Topics in Asian Art.

Oriental Languages 170A-170B. Archaeology in Early and Modern China.
270. Seminar: Selected Topics in Chinese Archaeology.

OTHER RELATED PROGRAMS

Related courses (not listed individually) include regional geography, ancient history and regional history, ethnography, folklore and history of technology. Also recommended are the appropriate modern and ancient languages for the student's area of study.

Students are encouraged to examine the course listings of any and all departments whose offerings may contribute to a truly interdisciplinary course of study.

CONTRACT ARCHAEOLOGY

While the importance of Contract (Public) Archaeology is recognized, UCLA currently offers no formal courses in this subject. Archaeology students whose interests include this field (as well as other disciplines which intersect archaeology) are encouraged to apply. Efforts will be made to develop a specially tailored program including the rudiments of Contract Archaeology.

ARCHITECTURE AND URBAN PLANNING

(Department Office, 1317 Architecture Building)

Marvin Adelson, Ph.D., Professor of Architecture/Urban Design.

Samuel Aronoi, Ph.D., Professor of Architecture/Urban Design.
Leland S. Burns, Ph.D., Professor of Planning.
John Fredman, Ph.D., Professor of Planning.
Peter Kannerizer, M.Arch., M.S., Professor of Planning.
Peter Morris, B.A., Professor of Planning.
Murray A. Malone, M.Arch., Professor of Architecture/Urban Design.
Charles Moore, Ph.D., Professor of Architecture/Urban Design.
Harvey S. Perleth, Ph.D., Professor of Planning (Chairman of Department). 
Edward W. Soja, Ph.D., Professor of Planning.
David Stor., Ph.D., Professor of Architecture/Urban Design.
Thomas R. Vreeland, Jr., M.Arch., Professor of Architecture/Urban Design.
Martin Wache, Ph.D., Professor of Planning.
J. Eugene Grigby, Ill, Ph.D., Associate Professor of Planning.
Dorothy Hayden, M.Arch., Associate Professor of Planning.
Frank E. Kupper, M.Arch., Associate Professor of Architecture/Urban Design.
Jurg. Lang, Dipl. Arch., ETH, Associate Professor of Architecture/Urban Design.
William Mitchell, M.E.D., Associate Professor of Architecture/Urban Design.
George Rand, Ph.D., Associate Professor of Architecture/Urban Design.
Helmut Schultz, M.Arch., Associate Professor of Architecture/Urban Design.
Donald Shoup, Ph.D., Associate Professor of Planning.
W. David Con, M.A. D. Phil., Assistant Professor of Planning.
Ruthann Corwin, Ph.D., Assistant Professor of Planning.
Allan Heskin, Ph.D., Director of Planning.
Karen Hill Scott, Ed.D., Assistant Professor of Planning.

Berle A. Tan, Ph.D., Lecturer in Architecture/Urb.
Michael Bobrow, B. Arch., Lecturer in Architecture/Urb.

John C. Bullock, Ph.D., Professor of Political Science.
Bomhard Campbell, E.E., Associate Professor of Engineering and Applied Sciences.
William A. Clark, Ph.D., Professor of Geography.
Edgardo Contini, Dottore in Ingegneria, Associate Professor of Architecture/Urban Design.
Ernest Engelbert, M.P.A., Ph.D., Professor of Political Science.
Leobardo Estrada, Ph.D., Visiting Associate Professor of Planning.
Robert C. Fried, Ph.D., Professor of Political Science.
Ronald Fishon, M.Arch., Adjunct Assistant Professor in Architecture/Urban Design.
Baruch Givoni, Ph.D., Visiting Professor of Architecture/Urban Design.

Donald G. Hagman, LLB, J.M., Professor of Law.
Bruce Herrick, Ph.D., Associate Professor of Economics.
Thomas S. Hines, Ph.D., Associate Professor of History.
Craig Hodgetts, M.Arch., Lecturer in Architecture/Urban Design.
Charles Jenkins, Ph.D., Lecturer in Architecture/Urban Design.
Robin Liggott, Ph.D., Lecturer in Architecture and Urban Planning.
Robert Marzian, B.Arch., Lecturer in Architecture/Urban Design.

Henry W. McGee, Jr., J.D., LLM, Professor of Law.
Paul M. Menfield, Ph.D., Lecturer in Geology.
Donal Dolls, B.Arch., Lecturer in Architecture/Urban Design.
Frank G. Mittelbach, M.A., Professor of Management.
Anthony R. Orme, Ph.D., Professor of Geography.
Richard Schoen, M.Arch., Associate Professor in Architecture/Urban Design.

Ruthann Corwin, I'hD Assistant Professor of Planning.

Karen Hill Scott, Ed.D., Assistant Professor of Planning.

Contracts to I

Norma Sklarek, B.Arch., Lecturer in Architecture/Urban Design.

John Friedmann, B.Arch., Lecturer in Architecture/Urban Design.

PROJECTS IN ARCHITECTURE AND URBAN DESIGN

401. Projects in Architecture. Laboratory, three hours. Prerequisite: consent of instructor. A number of different projects in relevant problem areas will be offered by faculty members from which the student may choose. May be repeated for credit.

402. Projects in Urban Design. Laboratory, three hours. Prerequisite: consent of instructor. A number of different projects in relevant problem areas will be offered by faculty members from which the student may choose. May be repeated for credit.

403. Project Studio With Specific Topic. (4 to 1 course) Laboratory, four to eight hours. Prerequisite: previous courses of particular sequence or consent of instructor. May be repeated for credit.
403A. Projects in Systems Building.

403B. Projects in Energy Conservation Design.

403C. Projects in Man-Environment Relations.

403D. Projects in Educational Facilities.

403E. Projects in Health Facilities.

403F. Projects in History.

403G. Projects in Design Methodology.

403H. Projects with Specific Topic: Projects in Computer Aided Design, (2 to 1 course) Prerequisite: previous course(s) in particular sequence or consent of instructor. May be repeated for credit.

The Staff

411. Introductory Design Studio. Laboratory, eight hours. Prerequisite: consent of instructor. Architectural composition is initially studied in terms of its separate elements. Analysis is studied by means of a manipulative exercise which allows for experimentation of its intrinsic possibilities, the student then undertakes a series of closely controlled exercises dealing with combining the elements. The latter part of the course is spent in the design of a small building, in which previously acquired knowledge is synthesized into a single design.

The Staff

412. Building Design Studio. Laboratory, eight hours. Prerequisite: course 411 or consent of instructor. The design of the project starts with the exploration of the architectural program in relation to the design process and particularly the implications of the architectural elements and concepts. In a second phase structural elements are introduced to fulfill the program requirements and to support and further develop the intended forms and concepts.

413. Building Design with Landscape Studio. Laboratory, eight hours. Prerequisites: courses 411, 412 or consent of instructor. Building Design and Site Planning in relation to water, land forms and plants in natural landscape, with special attention to natural light, heat and ventilation.

414. Major Building Design. Laboratory, eight hours. Prerequisites: second year standing. Design projects which enable students to concentrate on specifically architectural issues, with emphasis either on treatment in breadth of large scale projects, or exploration in depth and detail of smaller scale projects. Students will learn to integrate structure, environmental controls, physical context and the cultural environment in design of buildings, and to present their ideas in graphic or model form.

The Staff

415. Major Building Design II. Laboratory, eight hours. Prerequisites: completion of 414. Major Building Design I. Design projects which enable students to concentrate on specifically architectural issues, with emphasis either on treatment in breadth of large scale projects, or exploration in depth and detail of smaller scale projects. Students will learn to integrate structure, mechanical systems, energy consumption, environmental control, natural environment in design of buildings, and to present their ideas in graphic or model form. Special emphasis will be placed upon integration of environmental considerations.

The Staff

416. Comprehensive Design Studio. Laboratory, eight hours. Prerequisite: completion of required course work up to second quarter, third year. Consent of instructor. Course will complete regular course work up to second quarter, third year. Consent of instructor. Course work is continued with emphasis on design projects to be prepared for the third year thesis preparation. 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.

421. Architectural Drawing. Discussion, three hours; laboratory, three hours. Description of architectural drawing techniques and skills, including: sketching, diagramming, freehand drawing, drafting techniques, introduction to computer-aided design and perspective. The Staff

422. Advanced Architectural Design. (2 to 1 course) Discussion, three hours; laboratory, three hours. Prerequisite: course 421, or consent of instructor. The course continues with emphasis on the exploration of the interrelationship between drawing and design and on more advanced strategies and modes of graphic exploration and presentation are developed. The Staff

METHODOLOGY AND COMPUTER AIDED DESIGN

224. Methodology: Design Theory. Lecture, three hours. Course will complete regular course work up to second quarter, third year. Consent of instructor. Course work is continued with emphasis on design projects to be prepared for the third year thesis preparation. Comprehensive design projects which enable students to concentrate on specifically architectural issues, with emphasis either on treatment in breadth of large scale projects, or exploration in depth and detail of smaller scale projects. Students will learn to integrate structure, environmental controls, physical context and the cultural environment in design of buildings, and to present their ideas in graphic or model form.

The Staff

227A. Computer Graphics. Discussion, three hours. Prerequisite: consent of instructor. Assumining a basic familiarity with computer programming, the course provides an introduction to the elements of computer graphics, techniques for the construction of computer graphics in architecture. It consists of a series of lectures or seminars on technical topics, with intensive practical work conducted on two storage-tube graphics terminals.

Mr. Hamer, Mr. Mitchell

227B. Computer Aided Design. Discussion, three hours. Prerequisite: consent of instructor. An examination of existing computer-based systems for aiding decision-making. Topics will include artificial intelligence, self-organizing systems, and the use of mathematical models in architectural design.

Mr. Liggitt, Mr. Mitchell

228A. Mathematical Models in Architectural Design. Lecture, three hours. Prerequisite: consent of instructor. An introduction to concepts and techniques of mathematical modeling in architecture. Basic mathematics needed to develop models. The formal description of built form: date structures. Elementary mathematical models will be described with the use of mathematical models in architectural design.

Mr. Hamer, Mr. Milne

228B. Research in Design Methods. Lecture, three hours. Prerequisite: consent of instructor. Development of research in design methods. Theoretical and operational problems of a design method: degree of systematization, man-machine relationships areas of application, problems of translation and compatibility with other methods.

Mr. Hamer, Mr. Milne

ENVIRONMENTAL TECHNOLOGY


Mr. Aroni


Mr. Aroni


Mr. Aroni


Mr. Aroni

435. Building Construction. Lecture, four hours. Introduction to the first principles of structure and building construction. Building elements are not only explored for their structural qualities and possibilities of their proportion and assembly, but also concerning their formal and functional properties, and particularly their application and role within a building.

The Staff

436. Systems Building. Discussion, four hours. Prerequisites: consent of instructor. Survey of past and present developments in Europe, the USSR and the USA. Impacts, demands, socio-economic 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.

Mr. Schulitz

437. Methods in Building Systems Development. Base course for open building systems: reference system, compatibility of design with production, compatibility of operation between the built system and the module. In-depth study of past and present research and developments, such as SCSD, SAR.

Mr. Schulitz

438. Environmental Control Systems. Lecture, three hours. Prerequisite: consent of instructor. The design of the mechanical systems necessary for the functioning of large buildings: air handling, fire and life safety, plumbing, ventilation and horizontal circulation, communication and electrical power distribution, analysis of the interaction of these systems and their integrated effects on the architectural form of a building.

Mr. Milne

441. Building Climatology. Lecture, three hours. Prerequisites: basic physics, completion of first year M. Arch. I, consent of instructor. Building and the climate: building systems 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 land form to modify climate.

Mr. Aroni

442. Heat and the Thermal Environment. Lecture, four hours. Prerequisites: Structures II, Environmental Control Systems or consent of instructor. Explores the extent to which the physical form of a building controls and modifies the climate; the design of naturally and artificially heated and cooled environments; parameters of human thermal comfort; advanced concepts in building climatology.

Mr. Givoni

444. Light and the Visual Environment. Lecture, four hours. Prerequisites: Structures II, or consent

NOTE: For key to symbols, see page 74
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 visual comfort.

Mr. Milne

445. Sound and the Auditory Environment. Lecture, laboratory. Prerequisite: 288, 308, 396A. Design of homes, offices, schools, museums, etc., and selection of acoustical materials. The Staff

446. Introduction to Energy Conservation Design. Prerequisites: M. Arch. I students must have taken Building Climatology or equivalent. Others: consent of instructor. A professional practice-oriented view of the problems of energy flow and thermal comfort concepts. Review of existing and developing Energy Conservation Design and Management "active" and "passive" techniques. Application of socio-technical design with the ECDM 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

SOCIO-PHYSICAL RESEARCH AND DESIGN

180. Visual Thinking. Review of concepts of perception and conception (e.g., imagery, reasoning, memory, representation, communication) as they apply to the design process; special emphasis on the role of visual and schematic thinking in design problem-solving. Training of visual skills.

The Staff

192. Housing and Settlement Patterns. Patterns of spatial organization in housing and small settlements in a range of cultures. Interaction between spatial patterns and prevailing social attitudes toward the individual, the family, land ownership and toward authority, aggression, and communalism. Mr. Rand, Mr. Vreeland

256. Research in Man-Environment Relations. (6 to 2 courses) Selected topics for research in social and behavioral relations to the environment. This course is intended to provide a teaching space for visiting teachers in the social and behavioral sciences. It may be repeated since its contents are not fixed and will vary from year to year.

292. Social Building Theory. Consent of instructor. Review of basic literature on application of social science theory and data to the design and development of socio-technical systems.

Mr. Rand

303. Experiencing the Environment. Prerequisite: consent of instructor. Introduction to experience of the environment and its representation in graphic and visual forms. Focus on metaphoric thinking and personal discovery of the meaning and significance of the environment.

294. Environmental Psychology and Sociology. Prerequisite: consent of instructor. Environmentally based and interpreted approach to psychological states and individual and social behavior. Territoriality, density, stress and adaptation, and environmental cognition, aesthetics and preferences are considered.

Mr. Rand

295. Cognitive Processes of Design. Lecture, three hours. Review of concepts of perception and conception (e.g., imagery, reasoning, memory, representation, communication) as they apply to the design process. Special emphasis on the role of visual and schematic thinking in design problem-solving.

The Staff

296. Social Analysis of Buildings and Settings. Prerequisite: consent of instructor. The class conducts a one-week evaluation of a building in Los Angeles, designed and built within the past five years, where the architect, builder, initiators or other parties involved in the inception process are available for a review of the process. 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 characteristics from a variety of research approaches to evaluation. The class will produce a comprehensive evaluation using multiple-methods for each building evaluated.

Mr. Adelson, Mr. Silverstein

297. Group Process in Design. Prerequisite: consent of instructor. This course aims to equip students with the knowledge and skills needed to work effectively in design processes with other professionals and with client and user groups in organizations. Focus on the child’s role in the research and literature on personal development and studies of adaption to the spatial order of the man-made environment. Mr. Rand

298. Application of Behavioral Research to the Design Process. Lecture, three hours. Consent of instructor. Application of behavioral research to the design process. This course aims to begin the difficult task of bridging the gap between research and design by building upon and extending research generated in SAUP 258 and applying them to research in a field situation and the translation of the results of this research into a preliminary design solution in a selected community. Emphasis will be placed upon problem definition, the generation of meaningful research questions and understandable results, iterative approaches to the research/design interface, and novel ways of presenting design ideas. May be repeated for credit. Mr. Rand

ARCHITECTURAL AND URBAN ANALYSIS

210. Health Care Facilities. Studies the context of health care delivery and the impact on the process of planning health care facilities. Student work is a case study of an existing Southern California hospital. Studies in detail the process of the design of hospitals and the operational requirements of individual departments of the hospital. May be repeated for credit. Mr. Bobrow

218A-218B. Urban Structure: Analysis and Modeling. Unique course focusing on comprehension of urban structure and trends. Lecture, 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 into selected aspects of urban systems. Application of models in decision-making, particularly in urban design projects.

Mr. Lang

238. Research in Architectural and Urban Analysis. Discussion, three hours. Prerequisite: consent of instructor. Selected topics in architectural and urban systems. Documentation and project work; field work. The Staff

255. Urban Morphology: Definitions and Consequences. Lecture, three hours. An analysis of urban spaces and their evolution, function and behavior. Emphasis is placed 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). Mr. Stea

271. Elements of Urban Design. Lecture, three hours. Introduction of basic knowledge of elements and methods of urban design. A multidisciplinary approach to planning the political, social, economic and technological framework of urban systems and their dynamic interrelations.

Mr. Lang, Mr. Schultz

275. Urban Form. Discussion, four hours. Seminar on urban growth models, urban planning, and related social and physical measurements. The Staff

THEORY, HISTORY AND CRITICISM

189. Pre-Modern and Post Modern Architecture. Consideration of twentieth century revivalism
and the response of architects to a growing historical awareness. Issues of electricity within the Beaux Arts and Art Nouveau movements will be studied. These same themes will be re-considered in terms of the period.

Mr. Jencks

191. Modern Architecture. (4 or 1 course) A brief history of modern architecture in Europe in the first half of this century. Starting with Behrens and the German Werkbund, the course explores De Stijl in Holland, Purism in France, Constructivism in Russia, and Futurism in Italy, the Bauhaus in Germany.

Mr. Jencks, Mr. Moore

201A. Architectural Theory. (4 to 1 course) Lecture, three hours. Varying present-day and historical discussions (A, B, 0 of 2 courses). Prerequisite: consent of instructor. The course will discuss both the principles of architectural design and suggest means of designing to achieve this end; basically by using multiple "codes" of architectural meaning. Students will be expected to either analyze a building semantically, or design a building using the various "codes."

Mr. Jencks

202A. Image and Cultural Symbolization. Lecture, three hours. This course will demonstrate how modern architecture is a language that sometimes fails to communicate its intended messages. It will treat the interplay between modern architecture and other aspects of the environment. The notions of energy, art, and other forms of criticism on architectural theory, Epochen and styles, ideologies and social settings for architecture. The Staff

202A. Image and Cultural Symbolization. Lecture, three hours. This course will demonstrate how modern architecture is a language that sometimes fails to communicate its intended messages. It will treat the interplay between modern architecture and other aspects of the environment. The notions of energy, art, and other forms of criticism on architectural theory, Epochen and styles, ideologies and social settings for architecture. The Staff

206. History of Specific Building Types. Lecture, three hours. Consideration of socio-economic 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. 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

286. Architectural History: Medieval Period. Prerequisite: consent of instructor. A survey of European architecture from the year one thousand with selected buildings and environments considered in terms of the cultural contexts.

Mr. Aran

PLANNING THEORY

197. Planning for Minority Communities. Lecture, three hours. This course will introduce the student to inner city planning and planning for the separate locales. (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 social practices that can affect implementation. Mr. Estrada

200. The Good Society. Lecture, three hours. Prerequisite: consent of instructor. An exploration of certain value premises of contemporary social planning and social practice. The seminar will cover such topics as models of market-society; dialectic as a basic form of social relation; territorially and non-territorially integrated societies; the social learning paradigm; optimal conditions for social learning; and problems of interface between social planning, backed by the coercive power of the State, and social practice of the Good Society. Enrollment will be limited to 12 students. Mr. Friedmann

201B. Introduction to Planning Theory. The course provides a broad overview of the history of planning theory and focusses on current theories concerning the linkage between the scientific-technical intelligibility to organized social action. May be taken by upper-division, undergraduate students with consent of instructor. Mr. Friedmann

201C. Colloquium in Planning Theory. Prerequisite: enrollment limited to Ph.D. students. An in-depth and critical examination of major issues in Planning Theory. Faculty and students jointly select topics of importance for discussion. This course is graded S/U.

Mr. Friedman

209. Special Topics in Planning Theory. (1 to 2 courses) Lecture, three hours. Seminar on topics in planning theory selected by the faculty. May be repeated for credit. The Staff

212. Planning Theory: Time and the Future. Analyzes how time is, and can be, used as a factor in urban decisions and actions. Focuses on concepts and methods for dealing with the middle- and longer-range future, including asset accounting, time- and goal-oriented systems analysis, and different approaches to "planning for a better future." Mr. Perloff

223A. Professional Development Series (A). 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 the profession, 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 the professional planner. Students 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. 223A is generally taken in Quarter of the first year as an introduction to 223B and 223C.

Mr. Heskin

PLANNING METHODS

206A. Uses of Urban Data. Lecture, three hours. This course will cover various kinds of data which can be used and/or are used in planning studies. Heavy emphasis will be placed on census data and in statistical techniques used in census data analysis. General methods that the Areas of Policy Concentration specialties would bring to bear. 223A is generally taken in Quarter of the first year as an introduction to 223B and 223C.

Mr. Heskin

229. Special Topics in Planning Methods. (1 to 2 courses) Lecture, three hours. Seminar topics in that topic, in close collaboration with a potential dissertation advisor, through enrollment in an independent study course. This course is required of Ph.D. students; open to M.A. students interested in research. This course is graded S/U and may be repeated for credit.

Mr. Burns

213. Social Indicators and Reports for Metropolitan Regions. Discussion, three hours. Prerequisite: second year standing. Research seminars concerned with the development of social indicators. This is an introduction to the utilization of mathematical and statistical techniques for geographic research. Emphasis on linear models, factor analysis and grouping procedures as applied to geographic data bases.

Mr. Clark

M215B. Spatial Statistics. (Same as Geography M272.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: Mathematics 170 and 171 or equivalent or 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 inference. The Staff

220A. Quantitative Methods: Basic Analytical Concepts. Prerequisite: college algebra. Introduction to specific topics in mathematics most useful for planners. Topics include: review of the vocabulary of mathematics with emphasis on model formulation; analysis of linear and non-linear functions focusing on growth curves and mathematics of finance; matrix algebra and linear optimization; applications of basic calculus to planning; models focusing on problems of urbanization.

Ms. Liggett

220B. Quantitative Methods: Urban Data. (4 to 1 course) An introduction to statistical concepts and methods with applications in urban planning. Topics to be covered include elements of probability theory, probability distribution, sampling, estimation methods, hypothesis testing, analysis of variance, correlation and regression. The course will also include introduction to the use of the computer. Students with a statistics background may enroll in 220B for 2 units in order to obtain an introduction to computer techniques.

Ms. Liggett

229C. Quantitative Methods: Models. Lecture, three hours. Prerequisite: consent of instructor. An introduction to mathematical-statistical modelling methods with emphasis on urban growth and spatial allocation models.

Mr. Shoup, Mr. Wachs

221A. Evaluation Research. Prerequisite: course 220B or equivalent. This course focuses on the conceptual approach, methods and problems encountered in conducting evaluative research. Topics covered will begin with the purposes of evaluation, and go through the evaluation process, and conclude with some discussion on the uses and future of evaluation in planning. Case studies will be used as examples. Students will develop an evaluation of an actual action program as a class project. Ms. Hill Scott

221B. Project Evaluation Methods. Prerequisite: Economics 200. Major topics include benefit-cost analysis; goals-achievement matrices (and variants); panels of experts (Delphi, etc.); citizen participation in policy evaluation; sensitivity analysis; and brief exposure to computer-aided approaches (cross-impact matrices, graphics, advocacy, domains analysis, systems analysis, PPBS variants, goals programming, logical frameworks).

Mr. Conn, Mr. Shoup

229. Special Topics in Planning Methods. (1 to 2 courses) Lecture, three hours. Seminar on topics in
URBAN-REGIONAL DEVELOPMENT POLICY (APC)

M231. Urban Housing and Community Development. (Same as Law M237.) Lecture, three hours; discussion, one hour. Prerequisites: 223A. Emphasis comprehensively is on the development of and the comprehensive examination of the current issues in the planning, law, and administration of urban housing, community development, and related services. Generally taken in first year. Mr. Hesketh.

M232. Spatial Planning: Regional and International Development. An examination of the theory and practice of spatial planning at the regional, national, and international levels, including an in-depth analysis of the roles of settlement patterns, growth centers, central places, and the normative-ideological issues involved in international development planning. Generally taken in first year. Mr. Soja.

M233. Spatial Organization and Urban Planning. An introduction to the concepts and methods of spatial analysis as they apply to problems of planning and urban design. The organization of space in human societies is examined at a variety of scales, from the neighborhood to the world. Prerequisites: 232 or 220A. Mr. Shoup.

220A-220B. Analysis of Public Service Systems. Lecture, two hours; discussion, two hours. The application of systems analysis and decision theory to problems of planning public services. Prerequisites: Math 110 or equivalent, and one of the following: Economics 200 or equivalent, M224A, M224B, M241A, or M241B. Mr. Wachs.

220A. Urban Transportation Planning I. (Same as Engineering Systems M228B.) Lecture, four hours. Recent issues and case studies in transportation planning and policy: Planning a rail system and downtown people mover system for Los Angeles; public transportation and demand for travel; basic data sources for examining urban travel and transportation; evaluation of public transportation services; express buses on freeways; the Santa Monica Freeway Diamond Lake project; decision-making in the case of the Century Freeway; a parking management program for Los Angeles; car-pooling and vanpooling programs; field trips and guest speakers. Mr. Wachs.

231A. Urban Housing and Community Development. (Same as Law M237.) Lecture, three hours; discussion, one hour. Prerequisites: 223A. Emphasis comprehensively is on the development of and the comprehensive examination of the current issues in the planning, law, and administration of urban housing, community development, and related services. Generally taken in first year. Mr. Hesketh.

232. Spatial Planning: Regional and International Development. An examination of the theory and practice of spatial planning at the regional, national, and international levels, including an in-depth analysis of the roles of settlement patterns, growth centers, central places, and the normative-ideological issues involved in international development planning. Generally taken in first year. Mr. Soja.

233. Spatial Organization and Urban Planning. An introduction to the concepts and methods of spatial analysis as they apply to problems of planning and urban design. The organization of space in human societies is examined at a variety of scales, from the neighborhood to the world. Prerequisites: 232 or 220A. Mr. Shoup.

234. Seminar in Spatial Development Policy. Prerequisite: course 232 or some background in analytical human geography; or consent of instructor. A seminar in which students undertake interviews with public officials, field trips, and role play on urban development issues. Mr. Soja.

235A-235B. Regional Approaches to National Development. Prerequisite: consent of instructor; 235A for 235B. An advanced research seminar for students enrolled in the doctoral program. The first quarter deals with theoretical aspects of regional development planning and the current political and administrative frameworks for planning; the relationship between transportation systems and urban form, historical review of automobile and public transit systems; urban highway and transit planning programs; the identification and evaluation of transportation; environmental and social impacts of transportation systems; current policy dilemmas; controlling the automobile, promoting mass transit, energy issues, needs of elderly and handicapped. Mr. Shoup.

236A-236B. Urban Regional Development Theory. Lecture, three hours. Prerequisites: 207 or equivalent to 236A; 236A prerequisite to 236B. Economic development in urban and regional systems, and the resulting changes in spatial patterns. Mr. Burns, Mr. Shoup.

237. Evolution of Regional Planning Disciplines: 1925 to the Present. Prerequisite: consent of instructor for students not majoring in Urban-Regional Development. A critical survey of major developments in urban and regional planning from the 1920's to the present. Recommended for students majoring in Urban-Regional Development. Because a general familiarity with the relevant literature is essential to comprehension of the material to be covered, students not majoring in this area are asked to obtain approval from the instructor prior to enrollment in the course.) Mr. Friedmann.

239. Special Topics in Urban-Regional Development Policy. Three hours. Seminar on topics in urban and regional development policy selected by the faculty. May be repeated for credit. The Staff.
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

M248. Urban Transportation Law. (% course) Prerequisite: Law 153B or dem. I course. This course will begin with an exploration of the current policy and legal environmental challenges facing the urban transportation decision-maker today. It will then focus on the existing governmental programs for urban transportation, on the policies they embody, and on the public institutions created to or charged with the duties of administering them.

Mr. Schwartz

249. Special Topics in Public Service Systems. (% to 2 courses) Lecture, three hours. Seminar on topics of special interest to public service agencies selected by the faculty. May be repeated for credit. The Staff

SOCIAL DEVELOPMENT POLICY (APC)

251. Planning for Multiple Publics. Lecture, three hours. Prerequisite: recommended 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 for planning for multiple publics. The course will have students study and analyze communities in the Los Angeles metropolitan area as a means of gaining insights into the nature of social, political, and managerial problems of multiple publics. Generally taken in the first year.

Mr. Grisby

252A. Human Lives in Development. Lecture, three hours. Covers the growth and development of the individual throughout the life cycle. In-depth attention is given to various theories regarding human development, drawing implications for planning approaches. Emphasis is on psycho-social basis of individual development. Some proposed approaches to planning for the growing human development information in social impact analysis.

Ms. Hill Scott

252B. Social Policy in Human Development. Prerequisite: course 252A or consent of instructor. Seminar that explores the use of lifestyle and life cycle information for defining public policy. May be taken with background reading on exemplary planning studies that have attempted to consider behavioral needs and potentials during the planning process. This is a component of the course approach to planning and its consequences for society are also discussed.

Ms. Hill Scott

253. Social Theory for Planners. Lecture, three hours. Prerequisite: some prior knowledge of sociological theory would be useful but 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 founding fathers of modern sociology (Marx, Durkheim, Weber) were preoccupied with the profound changes which European society had undergone through the industrial revolution. They sought to define and explain these changes by investigating the underlying cohesive communities of the past with fragmented, impersonal industrial society. The Marxist tradition emphasized the inherent instability of industrial capitalism, arguing that stable societies can only evolve from the working out of class conflict and the transformation of capitalism. The main emphasis of recent American sociology has been upon the sources of stability--the way in which a conscious effort is made to preserve and maintain established patterns and institutions. From all this comes a legacy of preoccupation with bureaucracy, roles, norms, the interaction of social classes, and the contraction between the thought of modern (urban, atomistic) societies. The course will concentrate on the insights and crucial issues which have arisen from it, as it relates to the con- cerns of planning and social policy. Contemporary developments in urban sociology will also be dis- cussed.

Mr. Marris

254. Research Methods in Social Development Policy. Prerequisite: recommended 2208 or equivalent. Course reviews basic methods commonly used in planning or in applied social research. However, the emphasis is on the research process as a whole rather than on other methodologies. Topics will include: conceptualizing the research problem, developing a research plan; sampling, instrumentation, and data collection; and time management of a research study.

Mr. Estrada, Ms. Hill Scott

256. Social Impact Analysis. Lecture, three hours. Prerequisites: 2208 and one of 220C, 221, 2220C. An advanced course in social impact analysis. A course in survey research and methodology; or consent of instructor. This course will develop ways of creating methodologies as tools for social impacts on communities. Intent will be to develop both methodologies and policy formulation for assisting in community development. Enrollment limited. Generally taken in the second year.

Mr. Grisby

257. Loss and Change. The course explores underlying patterns of response to change, and how these are reflected in social movements and institutions--communities displaced by slum clearance and renewal; the impact of new technologies on behavior; new relationships, tribal societies undergoing modernization, scientists faced with revolutions in theory--trying to show how the process of change generates some fundamentally similar patterns of resistance and accommodation. Groups, individuals, and entire cohesive societies. Implications of the argument for the management and planning of change will be discussed.

Mr. Marris

259. Special Topics in Social Development Policy. (% to 2 courses) Lecture, three hours. Seminar on topics in social development policy selected by the faculty. May be repeated for credit.

The Staff

ENVIRONMENTAL PLANNING AND MANAGEMENT (APC)

M195. Engineering and Environmental Geology. (Same as Earth and Plan. M195.) Lecture two and one-half hours. Prerequisites: Geology 1 or 100; 111A recommended. 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. Merfield

M196. Geomorphology. (Same as Geography M196.) Lecture, two and one-half hours. Prerequisites: Geography 1 or equivalent, or junior standing, or consent of instructor. A study of the processes responsible for shaping the world's landscapes with emphasis on the relationship between the energy and materials involved and the magnitude and organization of the surface forms produced.

Mr. Orme

260. Advanced Seminar in Environmental Planning and Management. (% to 1 course) Discussion, three hours. Prerequisites: Corequisites: Discussion and organized individual and group research. Exploration of broad issues related to environmental planning of special interest to students. Generally intended for second year students specializing in Environmental Planning and Management. May be repeated for credit.

Mr. Conn, 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 man's historical role in modifying ecosystems. Generally taken during first year.

Ms. Corwin

261B. Environmental Management. Lecture, three hours. Prerequisites: course 261A or consent of instructor. Application of ecological principles to the analysis of environmental impacts and the management of natural and urban/regional resources.

Ms. Corwin

262. Residuals Management. (% to 1 course) Lecture, three hours. Prerequisites: Economics 200 or 221B or consent of instructor. Advanced seminar covering a selected topic (to be specified each time that the course is offered) in the management of soil, air, water, and other residuals such as toxic waste, radioactive, etc. Intended for, although not restricted to, students specializing in Environmental Planning and Management, and generally taken during the second year. May be repeated for credit.

Mr. Conn and Staff

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 promoting it. The focus is on those resources that are renewable, although other resources (e.g., water, timber, wilderness) may also be considered. Mr. M246A. Environmental Law and Policy. (% course) (Same as Law M290.) 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.

The Staff

266. Seminar on Land-Use Planning. Lecture, three hours. Prerequisites: Economics 200, 236A, 261A, 221B, or consent of instructor. A seminar-discussion topic that explores the use of exemplary cases to illustrate the impacts of urban growth and development on the physical environment, society, and the economic environment. The topics of discussion 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.

The Staff

269. Special Topics in Environmental Planning and Management. (% to 2 courses) Lecture, three hours. Seminar on topics in environmental planning and management selected by the faculty. May be repeated for credit.

The Staff

URBAN DESIGN (APC)

271. Environmental Planning and Management. (% to 2 courses) Lecture, three hours. Seminar on topics in urban design selected by the faculty. May be repeated for credit.

The Staff

274. Introduction to Urban Design. Lecture, three hours. Over-view of trends in urban design. Attempt at redefinition of the field from the perspective of the planner. Exploration of those planning methods, and perspectives, that will be of use in urban planning and other departments which are potentially applicable to urban design. A seminar utilizing brainstorming, reading, guest lectures and discussions. The course is expected to aid in the continuing clarification of the planner's contribution to urban design. Generally taken in the first year.

Mr. Kamitzer, Mr. Stea

276A-276B. Planning Workshop. (1 to 2 courses each) Lecture, three hours; laboratory, two hours. Prerequisites: 2421 or equivalent. Demonstration background in architectural design or consent of instructor. Planning projects with a focus on physical planning. Emphasis on SYN- THESIS and on the evaluative evaluation of the environment, including a review of basic planning concepts and methods, including those that can be generated from the list. May be repeated for credit.

Mr. Kamitzer

277A-277B-277C. Urban Design Research Seminar. (% course each) Lecture, three hours. Prerequisite: course 274. Built on AUP 274, this research seminar explores and develops the student's ability to undertake research for the "design content" of planning theories, methods and skills. Students will report on content of planning courses as they advance through the program and will jointly search for optimal applications of the learning acquired to the field of urban design. 277A generally taken in the first year.

NOTE: For key to symbols, see page 74
INDEPENDENT STUDY

199. Special Studies. (4 to 2 courses) Prerequisite: consent of instructor. Independent research or investigation on a selected topic to be arranged with a faculty member. May be repeated for credit. The Staff

494. Supervised Independent Teaching. (4 to 2 courses) Supervised individual teaching experience. This course is graded S/U and may be repeated for credit. The Staff

495P. Teaching Clinic in Urban Planning. (4 to 2 courses) Discussion, two hours. Supervised teaching clinic. Will include discussion of teaching experiences, teaching methods, procedures, etc. Guest lecturers from other departments on campus will be invited to participate in the course. This course is required of all Teaching Associates in the Urban Planning Program and will be an integral part of our teaching associate program. May be repeated once for credit. This course is graded S/U. Mr. Wachs and Staff

496. Special Projects in Architecture. (4 to 2 courses) Prerequisite: consent of instructor. Projects initiated by either individual students or students teams, and directed by a member of the faculty. May be repeated for credit.

496F. Field Projects. (4 to 2 courses) To be graded S/U only; may be repeated for credit. The Staff

497. Special Projects in Urban Design. (4 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. The Staff

501. Cooperative Program. (4 to 2 courses) Prerequisite: approval of UCLA Graduate Advisor and Graduate Dean. Approval of host campus head, director, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

596A. Directed Individual Research and Study in Architecture and Urban Design. (4 to 2 courses) May be repeated for credit. The Staff

596P. Research in Planning. (4 to 2 courses) May be repeated for credit. The Staff

597P. Preparation for the Comprehensive Examination for the Master's Degree or Qualifying Examinations for the Ph.D. Degree. (4 to 2 courses) May be repeated for credit. Graded S/U.

598A. Preparation in Architecture/Urban Design for the Master's Thesis. (4 to 2 courses) Prerequisite: consent of instructor. May be repeated for credit. The Staff

598P. Preparation for Master's Thesis in Urban Planning. (4 to 2 courses) Prerequisite: consent of instructor. May be repeated for credit. Graded S/U.

599P. Doctoral Dissertation Research in Planning. (4 to 2 courses) May be repeated for credit. Graded S/U.

INTERPROGRAM COURSES

187. Planning and Designing Our Cities. An introduction to urban planning and urban design with an emphasis on methods and tools used in practice. Starting with an overview of the planning field, the course covers itself to physical planning for redevelopment, for projects in expanding areas and for new towns. Lectures (with illustrated examples), field visits and presentation of the students' own projects create the framework for expanding our understanding of the urban planning and design process. Mr. Kamnitzer

190. Man and Environment: An Introduction to Architecture and Urban Planning. This course aims to introduce students to the kinds of problems that arise in creating and maintaining an environment for urban activities, and the approaches and methods of architecture and urban planning in helping to cope with such problems. The students are exposed to the complexities involved in giving expression to human needs and desires in the provision of shelters and movement systems; to the possibilities and limitations of technology and building forms; and the issues involved in relating the man-made to the natural environment. The students are expected to comprehend the major urban issues both as citizens and as potential technical experts. Ms. Perloff

226A. Computer Applications in Architecture and Urban Planning (Introductory). Lecture, three hours. Introduction to electronic computers and the PORTAN IV programming language, with emphasis on writing and executing programs specifically applicable to architecture, urban design and planning. The course will also provide an introduction to computer mapping techniques. No prerequisite or prior knowledge of computing is required. Ms. Liggett

226B. Computer Applications in Architecture and Urban Planning (Advanced). Lecture, three hours. Prerequisite: course 226A or equivalent. Seminar on the use of several techniques and modeling as applied to architecture and urban planning. This course will introduce the PCl programming language but will assume students have previous computing experience in another language.

278. Research Methods in Man-Environment Relations. (4 to 1 course) Lecture, three hours; discussion, two hours. A survey of a variety of research methods applicable to problems on the man-environment interface, including both those now frequently employed (e.g., survey research) and others not so well known (e.g., ecological psychology, ethnomethodology, etc.). Emphasis will be placed not only on the nature of research methods but also upon the application, advantages and disadvantages, of the various methods rather than upon the learning of techniques. The course will start with a revision of certain basic to the philosophy of science, emphasize practice in the application of research methods to selected exercises and a specific field situation, and conclude with some commentary upon the nature and future of statistical methods in the study of man-environment relations.

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. The Staff

ART

(Department Office, 1300 Dickson Art Center)

Samuel Amato, B.F.A., Professor of Art.
Alexander Badawy, Arch., D.A., Ph.D., Professor of Art.
E. Maurice Bloch, Ph.D., Professor of Art and Curator of Prints.
Albert Bolen, Ph.D., Professor of Art.
William J. Bruce, Professor of Art.
Raymond B. Brown, M.A., Professor of Art.
Jack B. Carmer, M.A., Professor of Art.
Susan B. Downey, Ph.D., Professor of Art.
Elliot D. Elgart, M.F.A., Professor of Art.
Robert F. Hadwen, M.A., Professor of Art.
Thomas Jennings, M.A., Professor of Art.
J. Bernard Kesler, M.A., Professor of Art.
Velizar Mikhailov, M.A., Professor of Art.
Lee Mullican, Professor of Art.
John A. Neuhart, Professor of Art.
Gordon M. North, M.F.A., Professor of Art.
Carlo Pedretti, Ph.D., Professor of Art.
Jan Stone, M.F.A., Professor of Art.
Otto-Rudolf Werckmeister, Ph.D., Professor of Art.
Laura F. Anderson, M.A., Emeritus Professor of Art.
Karl M. Birkmeyer, Ph.D., Emeritus Professor of Art.
Helen Clark Chandler, Emeritus Professor of Art.
G. David Davidson, Ph.D., Emeritus Professor of Art.
Sherrie P. Reep, Emeritus Professor of Art.
Frederick S. Wight, M.A., Emeritus Professor of Art.
Karl E. With, Ph.D., D.F.A., Emeritus Professor of Art.
Mitsuru Kataoka, M.A., Associate Professor of Art.
David M. Kunzle, Ph.D., Associate Professor of Art.
Donald F. McCullam, Ph.D., Associate Professor of Art.
Nathan Shapiro, Dottore in Architettura, Associate Professor of Art.
James R. Valeria, M.F.A., Associate Professor of Art.
James W. Basler, M.A., Assistant Professor of Art.
Cornelia K. Breitenbach, M.F.A., Assistant Professor of Art.
William C. Brown, M.A., Assistant Professor of Art.
Ioli Kalavrezos-Maxiemit, Ph.D., Assistant Professor of Art.
Cecilia F. Klein, Ph.D., Assistant Professor of Art.
Jeanne Kimbrough, M.A., Assistant Professor of Art.
Alice E. McCloney, M.A., Assistant Professor of Art.
Adrian Saxe, B.F.A., Assistant Professor of Art.
Madeleine Sunkows, B.Ed., Assistant Professor of Art.

Benjamin B. Johnson, M.A., Lecturer in Art.
Martin J. Powers, M.A., Acting Assistant Professor of Art.
Donald Roberts, Lecturer in Art.
Robert Wark, Ph.D., Lecturer in Art.
Jean Weiss, M.A., Lecturer in Art.

It is recommended that each student majoring in art, or in any other area, have each quarter's program approved by a departmental adviser.

The departmental major offered in the College of Fine Arts leads to the degree of Bachelor of Arts with the opportunity to specialize in one of three areas: (1) Art History, (2) Painting/Sculpture/Graphic Arts, (3) Design.

Preparation for the Major

Art History. Six courses selected from courses 50, 51, 52, 53, 54 and 55 and 56.

Painting/Sculpture/Graphic Arts. Courses 10A, 10B, 20A, 20B, 25; and two courses selected from 50, 51, 52, 53, 54, 55 and 56.

Design/Courses 31A, 31B, 32A, 32B, 34A, 34B; and three courses selected from 50, 51, 52, 53, 54, 55, 56.

The Major

Art History. (12 courses upper division art history required.)

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 in each of the remaining areas, and two additional courses from any of the nine areas.

1. 101A, 101B, 101C, 101D.
2. 103A, 103B, 103C, 103D, 103E.
3. 104B, 104C, 104D.
6. 110A, 110B, 110C, 110D, 120B, 120C, 121B.
7. 112A, 112B, 112C.

II. Three courses of art history electives which may include Classics 151ABC, Art 125, 197, 199 (design or studio courses do not apply as electives.)

In addition to the 12 courses (48 units) of upper division art history, each upper division course from other departments related to the area of concentration are to be selected in consultation with a faculty adviser.

Three quarters of one foreign language, or the equivalent. The language should be in relation to the area of concentration, or is in addition to the foreign language which is part of the General College requirements.
Painting/Sculpture/Graphic Arts. A minimum of 14 upper division courses selected in consultation with a painting/sculpture/graphic arts adviser including one course each in courses 130, 132, 133, 135, 137, 140, 145 and 147; two courses selected from courses 101-122 and four courses of art electives.

Design. A minimum of 12 upper division courses selected in consultation with an adviser including eight courses from 161A-172B; at least one course from 191A-191B or 192A-192B.

Admission to Graduate Status

Painting/Sculpture/Graphic Arts or Design. In addition to meeting the requirements of the Graduate Division, the student will usually be expected to have a bachelor's degree in Art. Students whose preparation in Art is deficient as determined by the departmental adviser will be required to take additional work before proceeding with the graduate program.

Art History. In addition to the University minimum requirements, the student must have completed six full courses in the history of art, distributed over at least four of the following categories such that three fall within categories a. through d., and three within categories e. through g. a) Egypt, Ancient Near East, Classical; b) Medieval (Western European, Byzantine); c) Renaissance, Baroque, Prints and Design, French and German, Italian, Middle American, American, Prints and Drawings; e) Chinese, Japanese; i) African, Oceanic, Native North American, Pre-Columbian; j) Islamic, Indian. No area may count more than one course.

The program requires a minimum of 18 courses, with at least ten courses in the 200 series. Candidates must have completed, whether under graduates or graduate students, a minimum of ten courses in art history from categories a. through d. Students intending to major in any of these areas must consult with an adviser prior to selecting courses. All candidates are expected to have a general knowledge of the history and theory of art. The specific program for the Master of Arts degree is determined in consultation with a faculty member.

MAJOR OF FINE ARTS DEGREE IN PAINTING/SCULPTURE/GRAPHIC ARTS

The program requires a minimum of 18 courses, with at least ten courses in the 200 series. Candidates must have completed, whether under graduates or graduate students, a minimum of ten courses in art history from categories a. through d. Students intending to major in any of these areas must consult with an adviser prior to selecting courses. All candidates are expected to have a general knowledge of the history and theory of art. The specific program for the Master of Arts degree is determined in consultation with a faculty member.

Doctor of Philosophy Degree in Art History

The M.A. in art history is required for admission to the Ph.D. program. An M.A. in art history from another institution will not be accepted as candidates for the M.F.A., but the M.A. degree is not a prerequisite. The M.F.A. is the highest degree for prospective professional artists. Three years of graduate work will be required to complete the requirements in terms of quality of creative work. Additional information concerning programs is available through the Art Department.

Lower Division Courses

Painting/Sculpture/Graphic Arts courses are supervised by the following faculty: a study oftechning staff: Amato, Brice, Elgart, Mullin, Nunes, Stussy and Valerio.


10B. Drawing. Studio, eight hours. Prerequisite: 10A. Development of line and tone; growth of sensory concepts. May be taken concurrently with 10A. Not open for credit to those who have completed 10B.

25. Sculpture. Studio, eight hours. Beginning course in sculpture. Studio work in plaster, clay, concrete, wood, stone, metal and plastics. Lectures on technical and aesthetic principles of traditional and contemporary sculpture with emphasis on the student's individual direction. Illustrated with slides and film.

30A. Introduction to Design and Technology. Lecture, three hours; discussion, one hour. Understanding the design process with emphasis on de
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31A. Fundamentals of Design. Lecture, two hours; laboratory, four hours. Exploration of visual awareness; a study of tech
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32A-32B. Visual Presentation. Demonstration, discussion and laboratory, eight hours. 32A is prerequisite to 32B. Translation of perception through definitive drawing. Exploration of visual awareness. Demonstration and discussion. May be taken concurrently with Art 31A-31B. Not open for credit to those who have completed 32A or 32B.

34A-34B. History of Design. Lecture, three hours; discussion, one hour. 34A is prerequisite to 34B.
Analysis of significant concepts of form in relation to social, technological, and historical developments. Not open for credit those who have had 154A or 154B respectively. The Design Staff

50. Ancient Art. Lecture, three hours, quiz, one hour. Open to freshmen and to students who have not had credit for former 1B or 100B. Early Christian, Byzantine, Islamic, Carolingian, Ottoman, Romanesque, and Gothic art and architecture.
Ms. Downey

51. Medieval Art. Lecture, three hours, quiz, one hour. Open to freshmen and students who have not had credit for former 1C or 100C. Art and architecture from 1000 to 1600 in Italy, Flanders, Germany, France, and Spain. Ms. Weisz

52. Renaissance Art. Lecture, three hours, quiz, one hour. Open to freshmen and students who have not had credit for former 1C or 100C. Art and architecture from 1400 to 1600 in Italy, Flanders, Germany, France, and Spain. Ms. Weisz

53. Baroque Art. Lecture, three hours, quiz, one hour. Open to freshmen and students who have not had credit for former 1C or 100C. Art and architecture from 1600 to 1800 in Italy, France, Netherlands, Germany, Spain, England, and the United States. Ms. Weisz

54. Modern Art. Lecture, three hours, quiz, one hour. Open to freshmen and students who have not had credit for former 1C or 100C. Art and architecture from 1800 to the present in Europe and the United States. Ms. Boehme, Mr. Kunze

55. African, Oceanic, and Native American Art. Lecture, three hours, quiz, one hour. Comparative approach, emphasizing economic, cultural, and historical aspects of selected artistic traditions which developed outside the spheres of influence of the major European and Islamic civilizations. Ms. Klein, Mr. Pedretti

56. Asian Art. Lecture, three hours, discussion, one hour. A survey of the major artistic monuments of the Indo-Iranian, South-east and Central Asian and the East Asian cultures, concentrating upon formal and iconographical problems, as well as the social and political conditions under which artworks were patronized and produced. Ms. Klimburg-Salter, Mr. Powers

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. Mr. Badawy

101B. Egyptian Art and Archaeology. Lecture three hours. A study of architecture, sculpture, painting, and minor arts during the First Intermediate Period, Middle Kingdom, and Second Intermediate Period. Mr. Badawy

101C. Egyptian Art and Archaeology. Lecture three hours. A study of architecture, sculpture, painting, and minor arts during the Empire (or New Kingdom). Mr. Badawy

102. Art of the Ancient Near East. (Formerly numbered 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. Not open to students who have had credit for 101D. Mr. Badawy

103A. Greek Art. Lecture three hours. Prerequisite: course 50. A survey of the art and architecture of Greece from the archaic period through the 5th century B.C. Ms. Downey

103B. Hellenistic Art. Lecture, three hours. Prerequisites: courses 50 and 103A. The art and architecture of Greece from the fourth century B.C. through the first century B.C. Ms. Downey

103C. Roman Art. Lecture, three hours. Prerequisite: course 50. The art and architecture of Rome and its Empire from ca. 300 B.C. to A.D. 300. Ms. Downey

103D. Etruscan Art. Lecture, three hours. Prerequisite: course 50. The art of the Etruscan peninsula from ca. 1000 B.C. to the end of the Etruscan Repub- lic. Ms. Downey

103E. Late Roman Art. Lecture, three hours. Prerequisites: course 50, course 103C. The art of the Roman Empire from the second through the fourth centuries A.D. Ms. Downey, Ms. Kalavrezou-Maxeiner

104B. 104C. Architecture and the Minor Arts of Islam in the Middle Ages. Lecture, three hours. Prerequisites: course 104B for course 104C; course 104C for 104D. Ms. Kalavrezou-Maxeiner

105A. Early Christian Art. Lecture, three hours. Prerequisite: course 50 or consent of the instructor. The origins and development of the architecture, sculpture, and painting of early Christianity, to the Iconoclastic controversy. (Not open to students who have had credit for 105A.) Ms. Kalavrezou-Maxeiner

105B. Early Medieval Art. Lecture, three hours. Prerequisite: course 50 or consent of the instructor. Art and architecture of Western Europe from the Migration period until 1000 A.D. Mr. Werckmeister

105C. Romanesque Art. Prerequisite: course 51. Art and architecture of Western Europe in the 11th and 12th centuries. Mr. Werckmeister

105D. Gothic Art. Lecture, three hours. Prerequisite: course 51. Art and architecture of Europe in the 13th century. Mr. Werckmeister

105E. Byzantine Art. Lecture, three hours. Prerequisite: course 51 or consent of instructor. The development of Byzantine Art from the Iconoclastic controversy to 1453, and the diffusion of Byzantine Art in Armenia, Georgia, the Caucasus, and Russia. Not open to students who have received credit for Art 105A prior to Spring 1972. Ms. Kalavrezou-Maxeiner

106A. Italian Art of the Trecento. Lecture, three hours. Prerequisite: course 52 or consent of instructor. Art and architecture of the 14th century. Ms. Klimburg-Salter

106B. Italian Art of the Quattrocento. Lecture, three hours. Prerequisite: course 52. Art and architecture of the 15th century. Mr. Pedretti, Ms. Weisz

106C. Italian Art of the Cinquecento. Lecture, three hours. Prerequisite: course 52. Art and architecture of the 16th century. Mr. Pedretti, Ms. Weisz

108A. Northern Renaissance Art. Lecture, three hours. Prerequisite: course 52. Painting and Sculpture in the Northern Renaissance. Mr. Pedretti, Ms. Weisz

108B. Northern Renaissance Art. Lecture, three hours. Prerequisite: course 108A. Painting and Sculpture in the Northern Renaissance. Mr. Pedretti, Ms. Weisz

109A. Baroque Art. Lecture, three hours. Prerequisite: course 53. Art and architecture of Italy and Spain, 16th to late 17th centuries. Mr. Pedretti, Ms. Weisz

109B. Baroque Art. Lecture, three hours. Prerequisite: course 109A. Art and architecture of Northern Europe, 16th to late 17th centuries. Mr. Kunze

109C. European Art of the 18th Century. Lecture, three hours. Prerequisite: course 53. Painting, architecture and sculpture of the 18th century will be examined in the light of political and social developments. Special emphasis will be given to the effect of the rise of democratic institutions, especially the French Revolution. Mr. Kunze

109D. Art and Architecture of Georgian England. Lecture, three hours. Prerequisite: course 109A. Mr. Pedretti

110A. European Art of the 19th Century. Lecture, three hours. Prerequisite: course 54. An inquiry into the problem of realism with emphasis on French Art, but including developments in England and Germany. Mr. Kunze

110B. European Art of the 19th and 20th Century: Post Impressionism to Surrealism. Lecture, three hours. Prerequisite: course 54. A study of the major developments in Modern Art, 1880's-1930, including Seurat, Cezanne, Gauguin, Van Gogh. Art Nouveau, Fauvism, German Expressionism. Mr. Boehme, Mr. Kunze

110D. Contemporary Art. Lecture, three hours. Prerequisite: course 54. European and American art since World War II. Mr. Kunze

112A. American Art. Lecture, three hours. Architecture in the United States from the Colonial period to the 19th century. Mr. Bloch

112B. American Art. Lecture, three hours. Painting and sculpture in the United States from the Colonial period to the 19th century. Mr. Bloch

112C. American Art. Lecture, three hours. Art and architecture in the United States in the 20th century. Mr. Bloch

114A. The Early Art of India. Lecture, three hours. Prerequisite: not open to freshmen. Survey of Indian Art from the Indus Valley cultures to the 10th century. Emphasis will be given to the Buddhist and Hindu backgrounds of the arts. Ms. Klimburg-Salter

114B. Chinese Art. Lecture, three hours. Not open to freshmen. Survey of the arts of China from the Neolithic times to the 18th century. The various arts will be related to the developing historical background of the country. Mr. Powers

114C. Japanese Art. Lecture, three hours. Not open to freshmen. Japanese art from its beginning to the end of the 19th century. Emphasis will be placed on the development of Buddhist art and its relationship with the culture. Mr. McCallum

114D. The Later Art of India. Lecture, three hours. Prerequisite: course 114A or consent of instructor. Survey of Indian Art from the 10th century to the 19th century. The decline of Buddhist Art, the last efflorescence of Hindu architecture, Muslim painting and architecture, and Rajput painting. Mr. Powers

115A. Advanced Indian Art. Lecture, three hours. Prerequisite: course 114A. Study in Indian sculpture and architecture. Ms. Klimburg-Salter

115B. Advanced Chinese Art. Lecture, three hours. Prerequisite: course 114B. Study in Chinese painting and sculpture. Mr. Powers

115C. Advanced Japanese Art. Lecture, three hours. Prerequisite: course 114C. Study in Japanese painting and sculpture. Mr. McCallum

117A. Advanced Studies in Pre-Columbian Art: Mexico. Lecture, three hours. Prerequisite: course 118B or consent of the 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 an emphasis on historical and iconographical problems. Ms. Klein

117B. Advanced Studies in Pre-Columbian Art: Central America. Lecture, three hours. Prerequisite: course 118B or consent of the 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 Aztecs. Mr. Kunze

117C. Advanced Studies in Pre-Columbian Art: The Andes. Lecture, three hours. Prerequisite: course 118B or consent of the 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 the Incas. Ms. Klimburg-Salter

118A. The Arts of Oceania. Lecture, three hours. Prerequisite: course 55 or consent of the instructor. Survey of the arts of the major island groupings of
the Pacific, emphasizing style-regions and broad historical relationships. Ms. Klein, Mr. Rubin

118B. The Arts of Pre-Columbian America. Lecture, three hours. Prerequisite: course 55 or consent of the instructor. Survey of the sequence of cultures which developed in the area between (and including) Mexico and Peru, from ca. 1000 B.C. until the conquest. Ms. Klein

118C. The Arts of Sub-Saharan Africa. Lecture, three hours. Prerequisite: course 55 or consent of the instructor. The early arts of Nigeria and a selection of other traditions, emphasizing sculpture. Mr. Rubin

118D. The Arts of Native North America. Lecture, three hours. Prerequisite: course 55 or consent of the 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

119A. Advanced Studies in African Art: Western Africa. Lecture, three hours. Prerequisites: course 118C or consent of the instructor. Graduate students in Art History may receive credit toward M.A. and Ph.D. requirements. Consideration of the network of stylistic, formal, and cultural relationships existing among the peoples of the upper Niger River Valley and adjacent portions of the Western Guinea Coast. Mr. Rubin

119B. Advanced Studies in African Art: Central Africa. Lecture, three hours. Prerequisites: course 118C or consent of the instructor. Graduate students in Art History may receive credit toward M.A. and Ph.D. requirements. Northern and eastern Nigeria, Cameroon, and the Ogowe River Basin. Mr. Rubin

120A. History of Prints. Lecture, three hours. Development of style and techniques of expression in the graphic arts, from the 15th century to the early 16th century. Mr. Bloch

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. Mr. Bloch

120C. History of Prints. Lecture, three hours. Development of style and techniques of expression in the graphic arts of the latter 19th and 20th century. Mr. Bloch

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. Mr. Bloch

121B. Critical and Historical Studies in Drawing. Lecture, three hours. Development of style and means of expression in drawing from late Renaissance to the early 19th century. Mr. Bloch

122. History of Style and Ornament. Lecture, three hours. Development of stylistic ideas and motifs in Western art and their expression in design from the Renaissance to 1900. A study in comprehension. Mr. Bloch

125. Tutorial Conferences. Discussion, two hours. Prerequisites: courses 50, 51, 52, 53, and 54. Restricted to undergraduate art history majors. Discussion of selected art topics with emphasis on related readings in music, literature, history and philosophy. Oral reports. Course grading will be Pass/No Pass basis only. Art History Staff

PAINTING / SCULPTURE / GRAPHIC ARTS

Painting/Sculpture/Graphic Arts courses are supervised by the following faculty, augmented by visiting staff: painting, drawing and sculpture, Amato, Brice, Elgarg, Mullican, Nunes, Stussy and Valerio; printmaking, Brown, photography, Heineken.

130. Life Drawing. Studio, eight hours; five hours arranged. Prerequisite: courses 10A, 10B, or consent of instructor. Maximum three courses. Studies from the model. Mr. Bloch

132. Drawing. Studio, eight hours; five hours arranged. Prerequisite: consent of the instructor. Maximum two courses. Drawing as a terminal medium of artistic expression.

133. Painting. Studio, eight hours; five hours arranged. Prerequisites: courses 10A-10B, 20A-20B, or consent of the instructor. Maximum three courses. Varied media and subjects. Composition, interpretation, expression.

135. Life Painting. Studio, eight hours; five hours arranged. Prerequisite: course 133. Maximum three courses. Varied media and subjects. Composition, interpretation, expression.

137. New Forms and Concepts. Studio, eight hours; five hours arranged. Prerequisites: courses 10A-10B, 20A-20B, 132, or consent of the instructor. Maximum three courses. Selected studies in engraving, etching, dry-point, aquatint, soft-ground, lithography, woodcut, and mixed media. Traditional and experimental graphic techniques. Fine printing. Mr. Shapira


147. Photography. Studio, eight hours; five hours arranged. Prerequisites: courses 10A-10B, 20A-20B, or consent of the instructor. Maximum three courses. Photography as a medium of artistic expression.

DESIGN

I. Comparative Studies in Design

161A. Ceramics. Lecture, three hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. Considers the development of ceramic materials and processes. Mr. Saxe

161B. Ceramics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. Introduction to the creative process in designing contemporary clothing. Ms. McCloskey

163B. Clothing. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 163A or equivalent. Further development of the design process, with emphasis on the symbolic aspect of clothing. May be repeated once. Ms. McCloskey

164A. Fiber Structure. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. Design and technology of woven forms. Traditional and new processes. Mr. Bassler, Mr. Kester

164B. Fiber Structures. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 164A or equivalent. The derivation of non-loom processes utilizing pliable elements. May be repeated once. Mr. Bassler, Mr. Kester

165A. Graphics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. The development of letterforms, typography, and reproduction technologies. Mr. W. Brown, Mr. Jennings, Mr. Neuhart

165B. Graphics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 165A or equivalent. Empircal and systems graphic concepts, including methods for letterforms, typography, and processes. Mr. Roberts, Mr. Kester

166A. Glass. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. The development of forms in glass, including kiln, cold-working, blowing, and coldworking. Mr. Roberts

166B. Glass. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 166A or equivalent. Theories of glass forming: colorants, lustres, acids, and surface decoration. Mr. Roberts

167A. Industrialized Materials. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. The influence of diverse media, structures, and systems on form development. Mr. Shapiro

167B. Industrialized Materials. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. Theories of newly developed technological materials and processes as conceptual influences. Mr. Roberts

168A. Landscape. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. The modification, conservation, and utilization of natural land elements. Mr. Roberts

168B. Landscape. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 168A or equivalent. The specific relationship of modified natural elements to human requirements. May be repeated once. Mr. Roberts

169A. Product. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. Theoretical evolution of form in industry; synthesis of function, aesthetics, mechanical, and material properties. Mr. Shapiro
190. Shelter. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 170A or equivalent. The definition of structure and space in relation to human needs. May be repeated once. Mr. Shapiro

170A. Shelter. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 170A or equivalent. The definition of structure and space in relation to human needs. May be repeated once. Mr. Shapiro

171A. Textiles. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 171A or equivalent. Dyeing theories and processes; natural and synthetic colorants. May be repeated once. Mr. Bassler, Ms. Breitenbach

171B. Textiles. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 171A or equivalent. Surface modification through dyes and finishes. Ms. Breitenbach

Proseminar in Design
192. Proseminar in Design: Resources. Proseminar, three hours. Prerequisite: consent of adviser. Investigation of resources for creativity as an introduction to research. Concurrent enrollment in one course in Concept and Form recommended. Enrollment through Design faculty advisers. Can be repeated once. Design Staff

193. Proseminar in Design: Senior Studies. Proseminar, three hours. Prerequisite: consent of adviser. Members of the faculty will examine special problems related to Design theory, technology, and performance. Topics for investigation will be announced in advance. Open to senior and advanced students through Design faculty advisers. May be repeated for a maximum of three courses.

Design Staff

PAINTING/SCULPTURE/GRAFHC ARTS
195. Proseminar in Painting/Sculpture/Graphic Arts. Discussion, three hours. Prerequisites: courses 10A, 10B, 20A, 20B. Analysis and discussion in Painting, Sculpture, and Graphic Arts with variable topics such as the comparison and contrast of traditional and contemporary concepts and media, and relationships to other arts. May be repeated for a maximum of three courses.

The Staff in Painting/Sculpture/Graphic Arts

Special Studies for All Majors
197. Honors Course. Hours to be arranged. Prerequisite: 3.0 overall, 3.5 in major, consent of instructor, junior or senior standing. Individual studies for majors. Maximum two courses. The Staff

199. Special Studies in Art. (1 to 2 courses) Hours to be arranged. Prerequisites: 3.0 in major, consent of instructor, senior standing. Individual studies for majors. Maximum two courses. The Staff

Graduate Courses
Prerequisite for all courses: consent of the instructor. All courses may be repeated for credit upon recommendation of adviser. Not open to undergraduate students. See College of Fine Arts, Unit Requirement. Course 201 through 245: exact topics of both graduate lecture courses and seminars vary.

201. Historiography of Art History. Seminar, two hours. A critical study of the various approaches to art history through the centuries.

The Staff in Art History

202. Methodology of Art History. (4 to 2 courses) Sections oriented to the development and refinement of specialized research skills appropriate to particular periods and areas in the history of art.

The Staff in Art History

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.

The Staff in Art History

204. Restoration, Preservation and Conservation. Seminar, two hours. Course may not be repeated.

Mr. Johnson

205. Studies in Prints. Seminar, two hours. Mr. Bloch

206. Studies in Drawings. Seminar, two hours. Mr. Bloch

207. Studies in Prints. Lecture, two to three hours. Mr. Bloch

208. Studies in Drawings. Lecture, two to three hours. Mr. Bloch

210. Egyptian Art. Seminar, two hours. Mr. Badawy

211. Topics in Egyptian Art. Lecture, two to three hours. Mr. Badawy

212. Problems in Islamic Art. Lecture, two to three hours.

213. Problems in Islamic Art. Seminar, two hours.

216. Topics in African Art. Lecture, two to three hours. Mr. Rubin

217. Topics in Oceanic Art. Lecture, two to three hours. Ms. Klein, Mr. Rubin

218. Topics in Pre-Columbian Art. Lecture, two to three hours. Ms. Klein

219. Topics in Native North American Art. Lecture, two to three hours. Ms. Klein, Mr. Rubin

220. The Arts of Africa, Oceania and Pre-Columbian America. Seminar, two to three hours. Ms. Klein, Mr. Rubin

221. Topics in Classical Art. Lecture, two to three hours. Ms. Downey

222A-222B, Greco-Roman Art. Seminar, two hours. A detailed study of the sculpture and architecture of Syria and Mesopotamia in the Greco-Roman Period. Credit and letter grade will be given only on completion of the full seminar sequence.

Ms. Klein, Mr. Rubin

223. Classical Art. Seminar, two hours. Ms. Downey

224. Topics in Medieval Art. Lecture, two to three hours. Ms. Kalavrezou–Maxeiner, Mr. Werckmeister

225. Medieval Art. Seminar, two hours. Ms. Kalavrezou–Maxeiner, Mr. Werckmeister

226A-226B. Medieval Art and Architecture. Seminar, two hours. Credit and letter grade will be given only on completion of the full seminar sequence.

Ms. Kalavrezou–Maxeiner

230. Italian Renaissance Art. Seminar, two hours. Mr. Pedretti, Ms. Weisz

231. Leonardo and Renaissance Theory of Art. Seminar, two hours. Mr. Pedretti

232. Topics in Italian Renaissance Art. Lecture, two to three hours. Mr. Pedretti, Ms. Weisz

233. Topics in Northern Renaissance Art. Lecture, two to three hours.

235. Northern Renaissance Art. Seminar, two hours.

240. Baroque Art. Seminar, two hours.

241. Topics in Baroque Art. Lecture, two to three hours. Mr. Pedroetti, Ms. Weisz

245. European Art from 1700 to 1900. Seminar, two hours. Mr. Wark

246. Art and Architecture of Georgian England. Seminar, two hours. Mr. Wark

252. Topics in Modern Art. Lecture, two to three hours. Mr. Boime, Mr. Kunzle

253. Modern Art. Seminar, two hours. Mr. Boime, Mr. Kunzle, Mr. Werckmeister

254. Topics in American Art. Lecture, two to three hours. Mr. Bloch

255. American Art. Seminar, two hours. Mr. Bloch

259. Topics in Asian Art. Lecture, two to three hours. Ms. Klimumb-Salter, Mr. McCallum, Mr. Power

260. Asian Art. Seminar, two hours. Ms. Klimumb-Salter, Mr. McCallum, Mr. Power

265. Field Work in Archaeology. (4 to 2 courses) Participation in Archaeological excavations or other archaeological research under supervision of the staff. The Staff in Art History

271. Graduate Painting. (4 to 2 courses) Hours to be arranged.

272. Graduate Printmaking. (4 to 2 courses) Hours to be arranged.

273. Graduate Sculpture. (4 to 2 courses) Hours to be arranged.

274. Graduate Photography. (4 to 2 courses) Hours to be arranged.

279. Seminar in Art. Seminar, two hours. Painting, Sculpture, Graphic Arts. Other forms and systems. Studies in concept, experience, process. The Staff in Painting/Sculpture/Graphic Arts

280. Communication Imagery. (4 to 2 courses) Laboratory, two to four hours. Exploration of graphic processes in visual systems. Design theory and procedures related to typographic, letter form, photography and the graphic film as they communicate visually.

Mr. Neuhart

281. Image Transfer. (4 to 2 courses) Laboratory, two to four hours. Advanced research in image transfer processes. Employment of the fixed image, such as offset lithography, offset or letter press, screen printing and emulsion printing, through photographic or mechanical means.

Mr. Jennings

282. Electronic Imagery. (4 to 2 courses) Laboratory, two to four hours. Electronic imagery. The recognition of the fugitive image in creative and recording processes such as video and the computer generated image.

Ms. Katoaka

283. Costume. (4 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. McClatchey

284. Ceramics. (4 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 techniques, design for industry, color and surface, and the historical importance of ceramics as a socially responsible discipline.

Mr. Saxe

285. Glass. (4 to 2 courses) Laboratory, two to four hours. Formal investigation and research in glass processes and procedures as a creative discipline.

Mr. Vasa

288. Fiber Structures. (4 to 2 courses) Laboratory, two to four hours. Advanced formative work in tra-
ditional and experimental processes of fabric construction utilizing fiber media.

Mr. Basler, Mr. Kester

Textiles. (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 fabrication, which may include but are not limited to dye and printing processes. Ms. Breitenbach

290A-290B-290C. Design Seminar—A Collaborative View. Seminar, three hours. The Design Staff

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.

Mr. Roberts

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 two and three dimensional projects involving color, light, surface, materials, equipment, furniture, etc. Mr. Mr. Kester, Mr. Shapira

294. Industrial Design. (1/2 to 2 courses) Laboratory, two to four hours. Development of design strategies and process methods for industrial production.

Mr. Shapira

295. Exhibition Design. (1/2 to 2 courses) Laboratory, two to four hours. Interpretation and presentation of materials for exhibition.

Mr. Carter

Individual Study and Research

596. Directed Individual Study or Research. (1/2 to 2 courses) Prerequisite: consent of the instructor. The Staff

597. Preparation for the Comprehensive Examination for the Master’s Degree or the Qualifying Examination for the Ph.D. (1/2 to 2 courses) Prerequisite: consent of the instructor. The Staff

598. Research for and Preparation of the Master’s Thesis. (1/2 to 2 courses) Prerequisite: consent of the instructor. The Staff

599. Research for and Preparation of the Doctoral Dissertation. (1/2 to 2 courses) Prerequisite: consent of the instructor. The Staff

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.

UCLA FREDERICK S. WIGHT ART GALLERY

The UCLA Frederick S. Wight Art Gallery, adjacent to Dickson Art Center, presents a program of changing exhibitions of regional, national and international significance, including a range of historical, ethnic and contemporary forms of art. Included in this program are exhibitions by faculty and students of the Painting/Sculpture/Graphic Arts and Design areas, and exhibitions assembled from the extensive collections of the Museum of Cultural History, focusing on non-Western and folk art. The Grunwald Center for the Graphic Arts maintains a print study collection and presents a series of exhibitions related to the Art Department’s program of advanced studies in the graphic arts and art history.

ASIAN AMERICAN STUDIES (Interdepartmental)

(Office, 3232 Campbell Hall)

Special Program in Asian American Studies

For details of the program in Asian American Studies at the Undergraduate level, see "Special Program in Asian American Studies" under Colleges of Letters and Science.

Master of Arts in Asian American Studies

The Master of Arts in Asian American Studies is administered by an interdisciplinary committee. Members of the Committee are: Lucie C. Hirata (Sociology) Chair; Hans Baerwald (Political Science); Perry Link (Oriental Languages); John Hawkins (Education); David Farquhar (History); Hiroshi Wagatsuma (Anthropology); Charles Nakamura (Psychology).

The interdisciplinary Master of Arts Degree in Asian American Studies is designed to promote scholarly research of Asians in the United States through a variety of disciplinary perspectives. The program is intended to provide training to community-oriented professionals and to serve as a foundation for further specialization at the doctoral level. The program will normally require two years of study in a program planned by the individual and the Graduate Advisor. Research is being conducted on various Asian American groups from many disciplinary perspectives. There are a variety of opportunities for graduate students to participate.

Admission to the M.A. Program

In addition to the general requirements of Graduate Admission, the applicant must have demonstrated interest in Asian American Studies as well as a general background in the social sciences. Students must present a minimum of two full years of study in an Asian language at the university level or its equivalent to be awarded the Master’s Degree in Asian American Studies. This requirement may be fulfilled prior to entering the program, but all candidates for the M.A. degree must pass a proficiency examination administered by the Asian American Studies Center and the Faculty Guidance Committee. All students who anticipate advancing to doctoral programs are encouraged to develop a thorough mastery of one or more Asian languages.

Requirements for the M.A. Degree in Asian American Studies

A. General Requirements: See the Graduate Division

B. Course of Study

1. A two-quarter seminar, Asian American Studies 200A-200B Critical Issues in Asian American Studies, is the only sequence in the program specifically required.

2. Candidates for the Master's Degree in Asian American Studies must have, in addition, satisfactorily completed nine courses two of which may be independent study courses (500 series). At least five of the nine courses must be graduate level courses (200 series) while the other four can be upper division undergraduate courses. Three out of the five graduate courses must be selected from the following:

   a. History 240—Race and Labor in California
   b. Sociology 261—Ethnic Minorities
   c. Anthropology 253—Asian Americans: Personality and Identity

C. Thesis: Candidates for the Master's Degree in Asian American Studies will be required to submit a thesis which is the result of scholarly research and original thinking.

D. An oral examination will be given by the candidate's Master's Degree Committee to the candidate on the problem examined in the thesis. The candidate must receive a "pass" on both the thesis and the oral examination in order to receive the degree.

INTERDISCIPLINARY COURSES

Upper Division

100A-100B. Introduction to Asian American Studies. This survey sequence is an introduction to Asian American Studies. The first quarter of the course will deal with the history of Asians in America. The second quarter will examine Asian American communities today. The Staff

103. Asian Americans and the Law. The course will survey major Federal and California case and legislative law directed specifically against Asian Americans, from 1850 to World War II and relocation. Major subject areas are Japanese relocation orders, Anti-Asian labor legislation, legal prohibitions against Asians' right to testify, case law on Asian women, and equal educational opportunity for Asians. Mr. Iwasaki

197. Topics in Asian American Studies. Graduate Courses

200A-200B. Critical Issues in Asian American Studies. (2 courses) Prerequisite: graduate standing. Consent of instructor. A two-quarter 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. Hirata, Mr. Wagatsuma

297. Topics in Asian American Studies. The following courses pertaining to Asian American Studies are offered by the departments listed. With the approval of the committee, other related courses may be included in a student's program.

Anthropology 103A-103B-103C. Peoples of Asia

106G. The Comparative Ethnography of the Hispanic Peoples in North America

108. Peoples of the Pacific

139. Comparative Minority Relations

160. Urban Anthropology

163. Women in Culture and Society

164. The Afro-American Experience in the United States

253. Asian Americans: Personality and Identity

269O. Comparative Minority Relations

269W. Culture and Personality of Japan

269Y. Cultures of the Pacific Islands


255. Urban Morphology: Definitions and Consequences

251. Planning for Multiple Publics

253. Social Theory for Planning

History 182. The Immigrant in America

183. The United States and the Philippines

185A-185B. American and Comparative Working Class Movements

186A-186B. History of the Chicano Peoples

188. History of California

NOTE: For key to symbols, see page 74
Astronomy 3 and 4 are essentially nonmathematical courses; for the major's degree student. 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. While the level of required mathematical skills in 3H is still elementary, the class is smaller and more challenging. Similarly, students who have already taken some college courses in physics and mathematics, should take Astronomy 4H instead of 4. In particular, for potential major courses 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 to science majors who wish to get a good general picture of astronomy and astrophysics in one course, in spite of the fact that a one course level, but has the form of a seminar focused on several selected topics, and is recommended mainly to lower division students who already have had an astronomy class.

Students of junior and senior standing in physics or related sciences are invited to choose any of the classes 103, 104, 115, 117, 127, and 130.

Advising

Every student enrolled in the curriculum in astronomy is required each quarter to have a program approved by a departmental adviser.

Preparation for the Major


The Major


Honors Program in Astronomy

Senior majors in Astronomy with a 3.40 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 199. To receive honors and highest honors at graduation, the grade point average must remain 3.40 or higher, and the work in 199 must reflect original research and be accepted by the departmental honors committee.

Requirements for the Master's Degree

General Requirements. See Master's Degrees. The Department offers work under The Comprehensive Examination Plan. This examination is given annually in fields specified by the Department. The requirements for the examination should normally be completed at the end of one year, and must be completed not later than two years after beginning graduate studies.

The record of each graduate student admitted from another institution or completing a course in consultation with the student to determine whether under-graduate courses in physics or astronomy are required to strengthen the student's background. The student should have undergraduate preparation equivalent to our undergraduate major, which consists of the courses: Astronomy 101, 103, 106, 115, 117, 127, 130. Physics 105A-105B, 110A-110B, 115A-115B, and 131A.

Requirements for the Doctor of Philosophy

General Requirements. See Doctoral degrees. The candidate must obtain a master's degree. (See the preceding section.) Ph.D. candidates are further required to serve one year as a teaching assistant.

A graduate student's annual evaluation is based on: (1) course grades, (2) research projects realized in the C-parts of graduate course (see below under Graduate Courses), (3) annual comprehensive examinations which establish his general level of knowledge in the core courses offered during the previous academic year. While certain minimum requirements must be satisfied in each of these three fields, a credit point system permits the student to make up partly for deficiencies in one field by outstanding results in another. These requirements should normally be satisfied within 9 quarters, and not later than within 12 quarters. When starting his work on a thesis, the candidate will also be required to pass an oral qualifying examination, conducted by his doctoral committee, that will test his preparation to conduct a specialized research problem.

The Department of Astronomy operates an off-campus observatory at Ojai, California, which features a 24-inch reflecting telescope and a 10-inch Schmidt telescope that are available to physics and astronomy students. The independent study and research programs in connection with courses 199, 596A and 599. In addition, the extensive facilities of the Lick Observatory may be utilized.

Lower Division Courses

3. Astronomy: The Nature of the Universe. Lecture, three hours; discussion, one hour. Not open to students who have taken or are taking Astronomy 101. An essentially nonmathematical course for the general university student on the development of ideas in astronomy, and what has been learned of the nature of the universe, including recent discoveries and developments. The Staff.

3H. Introductory Astronomy and Astrophysics. (Formerly numbered 8.) Lecture, three hours; discussion, one hour. Introduction to astronomy and astrophysics for freshmen who are seriously interested in science. Course requires the ability to understand mathematical and physical concepts, but high school algebra and trigonometry classes provide sufficient qualification.

Recommended: students who have taken or are taking Astronomy 3H and 4H, or permission of the instructor. An honors course for students who have taken or are taking Astronomy 3 or 4H, or the equivalent. For the general university student with previous introduction to astronomy. Selected topics (such as evolution of the solar system and stars and their evolution) are treated in some depth, but without formal mathematics, emphasizing their significance and relationships to other sciences. The Staff.

4H. Topics in Modern Astronomy. Lecture, three hours; discussion, one hour. Prerequisite: course 3 or 4H, or the equivalent. For the general university student with previous introduction to astronomy. Selected topics (such as evolution of the solar system and stars and their evolution) are treated in some depth, but without formal mathematics, emphasizing their significance and relationships to other sciences. The Staff.
108. Senior Symposium on Topics in Modern Astronomy. Meets three hours per week. Prerequisite: senior standing in astronomy or physics or consent of the instructor. Lectures by instructors in astronomy and related fields to supplement the regular course sequence. Includes radio, infrared, UV and X-ray astronomy, observational cosmology, variable stars, planetary physics, pulsars and quasars.

199. Special Studies. (4 or 1 course) Prerequisite: senior standing in an astronomy or physics with outstanding record, and consent of the instructor. Special studies with an individual faculty member. With prior approval, this course may be used to carry a meritorious observing program at the UCLA Student's Observatory, or in special cases with the 24-inch reflector at the Department's Field Station in Ojai.

Graduate Courses

Prerequisite to all graduate courses is consent of the instructor. Graduate courses 204 through 230 are offered in alternate years. With the exception of the introductory graduate course 200, the regular graduate courses consist of three quarters according to the following scheme: level A (winter quarter), B (spring quarter), and C (fall quarter). Level A is accessible for those who have completed the minimum knowledge in the field expected for all students who wish to obtain the Ph.D. degree, 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 who have completed the possibility of taking up a research project in the field. Level C (fall quarter, following academic year), 8 units: individual research projects supervised by the instructor in the form of a laboratory. The introductory courses are given in the winter quarters so that (1) full use may be made of the favorable fall weather for observational projects, (2) new graduate students have the basic material to study the program and with the department in the introductory course 200, which is offered every year. Course 240 is equivalent to the B courses.

200. Introduction to Graduate Study of Astronomy. Prerequisite: to be taken by all newly entering graduate students. Surveys the various fields of astronomy and astrophysics, gives first acquaintance with working methods, and with the department. Basic astronomical nomenclature is introduced and presented to the graduate student. Course 200 is based upon observational practice and astronomical literature. Mr. Plavec.

201. Astrophysics of the Solar System. Prerequisite: graduate standing or permission 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.

202A.-204B.-204C. Observational Astronomy. (1 course, 1½ courses, 2 courses) Positional astronomy, data reduction, telescopes, photometric spectroscopic and radio instruments and techniques. Includes laboratory. Mr. Epps, Mr. Ford.


240. Modern Problems in Astronomy and Astrophysics. Special topics offered by distinguished visiting professors. May be repeated for credit. Open to qualified graduate students in astronomy and in related fields (physics, meteorology, planetary and space physics).

250. Seminar on Current Astronomical Research. (½ course) The Staff

M266. Cosmic Ray Physics. (Same as Earth and Space Sciences M266) Cosmic ray composition, origin, acceleration, propagation, interactions with interstellar matter, magnetic field and radiation field, role in interstellar heating, non-thermal galactic radio and galactic x- and gamma-radiation, interaction in the earth's atmosphere.

M285. Origin and Evolution of the Solar System. (Same as Earth and Space Sciences M285) Dynamical problems of the solar system; chemical evidence from geochemistry, meteoroids, and the solar atmosphere; nucleosynthesis; solar origin, evolution, differentiation. Experimental and observational tests. Tidal, rotational, and magnetic processes; formation of the planets and satellite systems. Content will vary from year to year. May be repeated for credit. Graded S/U.

114. Astronomical Optics. Meets three hours per week. Prerequisite: Physics 105A. Geometrical optics, including ray tracing and optical aberrations commonly encountered in optical design. Interference, polarization, photographic emulsion and other aspects of physical optics with particular emphasis placed on practical applications in astronomical investigation. Mr. Epps.

115. Physical Foundations of Astrophysics. Lecture, four hours. Prerequisite: upper division standing in astronomy or physics, or consent of instructor. Spectra of stars and galaxies, extragalactic distances. Introduction to cosmology. Mr. Abell, Mr. Ford, Mr. Plavec.


118. Stellar Atmospheres and Interstellar Matter. Meets three hours per week. Prerequisite: senior standing in astronomy or physics, or consent of instructor. Astronomy 115 or its equivalent. Introduction to radiative transfer, stellar atmospheres and their models. Curve of growth analysis and abundance determinations. Atmosphere of the Sun. Physical conditions in the interstellar medium and aspects of star formation. Mr. Aller, Mr. Jura.

119. Stellar Interiors and Evolution. Meets three hours per week. Prerequisites: senior standing in astronomy or physics, or consent of instructor. Recommended: Astronomy 115. Physical conditions in stellar interiors. Energy production in stars. Evolution from star formation through the normally observed stages to white dwarfs, neutron stars, and black holes. Novae, supernovae, other variable stars. Synthesis of physical processes. Mr. Plavec, Mr. Ulrich.

130. High Energy Astrophysics. Meets three hours per week. Prerequisites: Senior standing in astronomy or physics, or consent of instructor. Theory and observation pertaining to astronomical sources of energetic electromagnetic radiation. Cherenkov radiation, Compton scattering; interaction of matter with compact objects. Solar flares, X- and gamma ray sources, the Crab nebula, nuclei of peculiar galaxies, quasars. Mr. Katz, Mr. Margon.

131. Stellar Evolution from Star Formation through the Extragalactic Distance Scales. Introduction to galaxy and external galaxies. Galactic and astronomical investigation. Mr. Epps.
The Major

The required courses are: Atmospheric Sciences 109A-109B; Physics 110A-110B, 112A, 131A-131B; two courses from Atmospheric Sciences 143, 144, 151, and two courses from 152, 153, 154. In addition, students preparing for graduate studies in Dynamic and Synoptic meteorology should take as electives: Mathematics 135A, 135B, 140A and 140B courses in meteorology processes, including wind, clouds, rain, lightning, tornadoes and hurricanes, solar and terrestrial radiation; phenomena of the higher atmosphere; the ionosphere and the aurora; causes of air pollution; proposed methods and status of weather modification. This course is not open to students who have received credit for 3L.

Admission to Graduate Status

The Department recognizes the desirability of a wide variety of backgrounds of students concerned with study of the various aspects of the atmosphere. In addition to those 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.

Requirements for the Master's Degree

For general requirements, see Graduate Division. A bachelor's degree in one of the following: meteorology (atmospheric sciences), astronomy, chemistry, engineering, geophysics, physics or mathematics. A study program, approved by the Departmental Graduate Advisers, to fill any deficiencies in the student's preparation for the general examination and to prepare the student in one of the fields of specialization: (1) Dynamic and Synoptic Meteorology, (2) Dynamics and Microphysics of Clouds and Precipitation, (3) Radiation, or (4) Upper Atmospheric and Space Physics. Atmospheric Sciences 260 is required.

Knowledge of a foreign language is not required. The Department grants the Master's degree either by the comprehensive examination plan or by the thesis plan. The comprehensive examination plan requires a 3.0 or higher in one 150-series or graduate course in each of two fields other than their field of specialization. A student following the examination plan must pass an examination in his field of specialization. A thesis plan with an excellent academic record may petition the Department to follow the thesis plan.

Requirements for the Doctor's Degree

For the general requirements, see Graduate Division. Knowledge of a foreign language is not required. A student must pass the following examinations in no more than two attempts: (1) a written and, at the option of the Departmental Guidance Committee, an oral examination in his field of specialization and (2) an oral qualifying examination conducted by his Doctoral Committee. After advancement to candidacy, the candidate must satisfy the following courses: dissertation, which represents an original contribution to knowledge, and must pass a final oral examination conducted by his Doctoral Committee.

Lower Division Courses

2. Air Pollution. Lecture, three hours; discussion, one hour. A course for all students interested in the consequences of pollutant concentrations in the atmosphere. Topics covered will 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. Edinger

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 PHYSICS 110A-110B, 112A and 131A-131B: topics covered will include the evolution of planetary atmospheres, their present composition and structure; atmospheric radiation and thermodynamics; elementary atmospheric physical processes; climate change. Mrs. Kuriyan

12. Forecasting Seminar. (½ course) Objectively forecasting of wind, temperature, and precipitation for Los Angeles as measured at UCLA, and for a major city east of the Rockies. Emphasis on development and familiarization with the use of satellite and conventional observations, map analyses and numerical weather prediction guidance produced by National Meteorological Center. This course will meet four times a semester and evaluated objectively. No previous experience required.

40A. Basic Meteorology I. Lecture, three hours; laboratory, six hours. Prerequisite: course 10. Terrestrial energy budget; general circulation; atmospheric motions; fronts and cyclones. Mrs. Venkateswaran

40B. Basic Meteorology II. Lecture, three hours; discussion, one hour. Prerequisite: course 40A. Atmospheric chemistry. Microstructure and formation of clouds and precipitation. Atmospheric electricity. Scattering and absorption of radiation in the atmosphere. Upper atmospheric phenomena. Ionospheric layer formation, aurora, esospheric escape of the Earth's radiation belts and magnetosphere, and its interaction with the solar wind. Mr. Wurtele

Upper Division Courses


M109B. Geophysical Fluid Dynamics. Lecture, three hours; discussion, two hours. Prerequisite: course M109A or consent of the instructor. The Navier-Stokes equations and their applications to problems in geophysics. Acoustic and gravity waves in a stratified atmosphere. Hydromagnetic waves. The quasi-geostrophic motion. Barotropic and baroclinic instabilities. Mr. Wurtele

161. Solar and Terrestrial Relations and the Earth. Lecture, three hours. Prerequisite: course 40A or consent of the instructor. The terrestrial consequences of solar activity—aurora borealis and magnetic storms, and its effects on various aspects of human activity through history, from space age forecasting, e.g., the impact on nuclear communications, satellite exploration, literature, folklore, myths and religion will be covered. Emphasis will be on the phenomenology and the human response to it. Background in one of the following or consent of the instructor: history of science, folklore, mythology, environmental or physical sciences, archeology, anthropology. Mr. Siscoe

165. Physical Oceanography. Lecture, three hours; discussion, one hour. Prerequisite: course 40A or consent of the instructor. Wind and temperature structure in the surface layer; mesoscale weather and wind systems; turbulence and diffusion; evaporation; transport, diffusion and transformation of atmospheric constituents. Mr. Edinger
199. Special Studies in Meteorology. (½ or 1 course) Prerequisite: consent of the instructor. Special individual study. The Staff

Graduate Courses

DYNAMICS AND SYNOPTIC METEOROLOGY

205. Instrumentation Laboratory. Measurement of atmospheric variables in the field and the laboratory. Electronic techniques applied to data acquisition and recording. The material covered may be determined by students interest. Mr. Edinger


*208A. Atmospheric Turbulence. Lecture, three hours. Kinematics of homogeneous and shear-stress 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. Radiative Transfer and Air Pollution. Lecture, three hours. Nature and sources of atmospheric pollution; dispersion from point, line, and area sources; pollution dispersion in urban complexes; meteorological factors and air pollution potential; meteorological aspects of air pollution control. Mr. Edinger

209A. Meteorological Fluid Dynamics I. Lecture, three hours. An introduction to the fluid dynamics of the atmosphere. The basic kinematics and governing equations and their applications to incompressible air flows. Vortex dynamics and Helmholtz instability. Inertia-gravity waves and geostrophic adjustment. Frontal wave instability. The Navier-Stokes equations. Viscous boundary layers. Mr. Arakawa

209B. Meteorological Fluid Dynamics II. Lecture, three hours. Prerequisites: course 209A or consent of instructor. Oscillations of a compressible, stratified and rotating atmosphere, with and without stratification. Structure of clouds and dynamics of quasi-geostrophic motion. Quasigeostrophic turbulence. Vertical propagation of wave energy. Mr. Arakawa


212A. Numerical Methods in Geophysical Fluid Dynamics. Lecture: three hours. Prerequisite: course 209A or consent of instructor. Basic numerical methods for initial-boundary value problems in fluid dynamics, with an emphasis on applications to atmospheric, oceanic and geophysical problems. Finite difference methods and truncation error. Linear and non-linear computational instability. Computational modes and computational boundary conditions. Spectral methods. Mr. Seiss


*218A. Dynamics of the Atmosphere-Ocean Systems. Lecture, three hours. Mass, momentum, and heat transfers between atmosphere and ocean. Wind-driven ocean currents; thermohaline convection; dynamics of the Gulf Stream. Mr. Pruppacher

*219. Special Topics in Dynamic Meteorology. (½ to 1 course) The content of this course varies from year to year. The Staff

DYNAMICS AND MICROPHYSICS OF CLOUDS AND PRECIPITATION

221. Atmospheric Chemistry. Lecture, three hours. Physical and chemical properties of atmospheric trace gases; size distribution and physical and chemical properties of atmospheric aerosol particles; wet and dry removal processes for atmospheric trace gases and atmospheric aerosol particles. Mr. Pruppacher

*223A. Cloud and Precipitation Physics I. Lecture, three hours. Prerequisites: course 152 or consent of instructor. Microstructure of atmospheric clouds; structure of the three phases of water substance including surface effects; thermodynamic theory for equilibrium between the three phases of water substance including surface effects; theory of homogeneous and heterogeneous nucleation of water drops and ice crystal. Mr. Pruppacher

*223B. Cloud and Precipitation Physics II. Lecture, three hours. Prerequisites: course 223A. Theory of the growth and evaporation of water drops and ice crystals by diffusion of water vapor; hydrometeorology of rigid bodies in a viscous medium; hydrodynamics of cloud drops, rain drops and atmospheric ice particles; processes of cloud drops and atmospheric ice particles by collision. Mr. Pruppacher

224. Atmospheric Electricity. Lecture, three hours. Prerequisites: course 223B and Physics 110A-110B. Fair weather electricity; atmospheric ions; electric structure of stormy and nonstormy clouds; electric charge generation mechanisms in atmospheric clouds; physics of thunder and lightning; effect of electric fields and charges on cloud and precipitation formation and microphysical processes. Mr. Pruppacher

228A. Clouds and Radiation. Lecture, three hours. Radiation budget of cloudy atmospheres including cloud-albedo feedback mechanisms; dependence of cloud radiative properties on microphysical parameters. Scattering techniques of radiation effects of clouds; radiative dynamical interactions in cloudy atmospheres. Mr. Kuriyan

*228B. Radar Meteorology. Lecture, three hours. Radar detection of spherical and non-spherical particles; use of radar in studying size distributions of cloud and precipitation particles; precipitation intensity and amount, updraft velocities, horizontal wind speed and turbulence; radar observations of convective clouds, thunderstorms, tornadoes, hurricanes, squalllines, and fronts; clear air echoes. Mr. Pruppacher

RADATION

*235. Infrared Radiative Transfer. Lecture, three hours. Prerequisites: course 153. Theory of radiative transfer. Approximate solutions to the equation of transfer. Absorption spectroscopy; band models; absorption by atmospheric gases; fluxes and heating rates. Satellite radiation measurements. Mr. Kuriyan

*236. Scattering Processes in the Atmosphere. Lecture, three hours. Prerequisites: course 153. Equation of transfer in a scattering medium. Stokes formalism for Rayleigh and Mie scatterings; polarization of skyglow; scattering in a turbid atmosphere: aerosols and their effects on the radiation balance of the atmosphere. Experimental methods of determining aerosol parameters and their significance to meteorology. Mr. Kuriyan

*238. Radiative Transfer in the Earth’s Atmosphere. Lecture, three hours. Prerequisites: course 153. Critical review of methods available to calculate the transfer of radiation (visible, ultraviolet and infrared) through the atmosphere. Computations of fluxes and heating rates using various methods. The emphasis of the course will be to provide a familiarity with the available techniques in the literature. Mr. Kuriyan

UPPER ATMOSPHERIC AND SPACE PHYSICS

240A. Solar System Magnetohydrodynamics. (1½ courses) (Formerly numbered 240) Prerequisite: course 154 or consent of instructor. Derivation of the MHD equations with two fluid aspects, generated Ohm’s law, small amplitude waves, discontinuities, shock waves, and instabilities. Applications to the dynamics of the solar wind and the interstellar medium. Mr. Venkateswaran

240B. Solar System Plasma Physics. (1½ courses) Prerequisite: course 154 or consent of instructor. Adiabatic charged particle dynamics; collective plasma phenomena; cold plasma wave theory, ray tracing; conceptual introduction to plasma instabilities and diffusion, violation of the adiabatic invariants. Mr. Venkateswaran

*247. Radiation Belt Plasma Physics. Prerequisite: course 240B or consent of instructor. Turbulent plasma instabilities, their relation to satellite observations, and magnetospheric storms. Processes responsible for the source, loss and transport of energetic radiation belt particles. Mr. Thorne

249A—249B. Special Topics in Solar Planetary Relations. (½ to 1 course each) (Formerly numbered 249) Selected topics of current research interest. Mr. Venkateswaran

250. Dynamics of the Stratosphere and the Mesosphere. Lecture, three hours. Prerequisites: course 209D or consent of instructor. Photochemistry and radiation regime of the middle atmosphere; propagation of waves of tropospheric origin; radiative and photochemical damping effects on propagation and destruction of atmospheric constituents; wave-zonal wind interactions; internal instabilities; theories of circulation features including annual, semi-annual and quasi-biennial oscillations and the build-up and breakdown of polar stratospheric and mesospheric waves. The Staff

*256. Remote Sensing. Prerequisite: course 255 or consent of instructor. Remote sensing of stratospheric temperature and composition—theory and practice. Mr. Venkateswaran

*258. Theory of Planetary Atmospheres. Lecture, three hours. Prerequisite: course 256. Atmospheres of the terrestrial planets and of the outer planets. Mr. Venkateswaran

NOTE: For key to symbols, see page 74
BIOCHEMISTRY

Graduate Courses of Special Interest to Qualified Meteorology Majors
Astronomy 201A.
Chemistry 215; 223.
Earth and Space Sciences 202; 203; M211; 214; 217; 228; 250; 261; 265.
Engineering 231C; 250A-250C; 251A-251C; 252A-252B; 259A.

BIOCHEMISTRY

Undergraduate Biochemistry Major
The Biochemistry major is described in the Chemistry section. For further information consult the Chemistry Undergraduate Office, 2355 W. Young Hall.

Graduate Study
Programs of study and research leading to the M.S. and Ph.D. degrees in the general area of biochemistry are offered in the Department of Biological Chemistry, School of Medicine, in the Division of Biochemistry, Department of Chemistry, and in the Department of Biology. More detailed information regarding admission requirements and opportunities for graduate studies in these programs may be obtained by writing to the graduate adviser in the department in which you are interested.

Requirements for Admission to Graduate Status
1. General University Requirements.
2. Completion of "core" courses M253, M255, M263 and M267 (grade of B or better) either concurrently with or following completion of a general course in biochemistry (can be taken before admission to graduate status); also courses 220ABC, 260ABC and 596 or 599 and other courses recommended on an individual basis. A reading knowledge of German, Russian or French, plus either a second language or a course related to the "language of an instrument" (e.g. courses on computer techniques, etc.).

The Department of Biological Chemistry in the Medical School and the Division of Biochemistry of the Chemistry Department offer coordinated programs leading to the M.S. and Ph.D. degrees. Although there is close cooperation between the two departments, a student must be formally admitted into the program of one department or the other. For more information concerning graduate study in biochemistry, write to Robert J. DeLange, Graduate Adviser, Department of Biological Chemistry, School of Medicine, Center for Health Sciences, University of California, Los Angeles, California 90024.

Upper Division Courses
101A-101B-101C. Biological Chemistry. Lecture, three hours. Prerequisite: organic chemistry. Required in the medical curriculum; consent of the instructor is required for nonmedical students.

The Staff
101E. Biological Chemistry Laboratory. Lecture, seven hours. Required in the medical curriculum; consent of the instructor is required for nonmedical students. Experience illustrating some of the procedures employed in clinical chemistry, enzymology and metabolic studies.

The Staff
102A-102B. Biological Chemistry Lecture (Dental Students). Lecture, three hours. Prerequisite: courses for admission to dental school. Required in the dental curriculum; consent of the instructor is required for nondental students. The biochemical properties and structures of living systems are considered with special emphasis on mineral metabolism.

The Staff
102C. Biological Chemistry Laboratory and Seminar (Dental Students). (4 hours) Laboratory, four hours. Required in the dental curriculum; consent of the instructor is required for nondental students. The laboratory, which consists of experiments designed to illustrate biochemical principles, involves studies on enzymes, metabolic processes, respiration and calcified structures. The seminars, which will be given by the students of the discussion groups, involve presentation of material from current research dealing with biochemical studies related to dentistry.

Mr. McKee, Mr. Suarez and the Staff

Graduate Courses
201A-201B. Biological Chemistry. Lecture, three hours. Prerequisite: Organic chemistry, a course in
undergraduate biochemistry other than a beginning survey course. Consent of instructor is required. A graduate level course in fundamentals of biochemical aspects of metabolism, with emphasis on mammalian biochemistry, morphology and physiology of the whole organism and the single cell. Consent of instructor is required. This course will deal with the chemical mechanisms underlying the development of function and control of enzyme synthesis, consideration of components of the biochemistry of cell division, macromolecular synthesis, chromatin function in gene expression, cell-cell interactions, membrane organization, and growth. The course will deal with the biochemical aspects of development, specific tissue specialization or function in the central nervous system. Mr. Roberts and the Staff

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 nervous system. Mr. Howard

222. Biochemistry of the Synapse. (4 course) Lecture or recitation, two hours. Prerequisite: course 221. Detailed analysis of the research literature dealing with the chemistry and metabolism of synapses. Mr. DeLange

223. Current Topics in Neurochemistry. (4 course) Lecture or recitation, two hours. Prerequisite: course 221. Detailed analysis of a circumscribed area of neurochemistry of current interest. One of the following topics may be presented: metabolic diseases affecting brain function, development of cyclic nucleotides in neural activity, biochemical differentiation of the nervous system, research methods in neurochemistry, brain specific macromolecules. The Staff

M226. Chromosome Structure and Regulation. (Same as Biology M226, Chemistry M226, Microbiology M226, Microbiology and Immunology M226.) Lecture, three hours. Prerequisite: consent of instructor. Lectures and panel discussions on the structure of chromosomes and the organization of eukaryotic chromosomes. Satisfactory/unsatisfactory grades are used for this course. Mr. Martinson, Mr. Tobin, Mr. Wall

M253. Macromolecular Structure. (1 course) Lecture or lecture-recitation, five hours. Prerequisites: Chemistry 110A; Chemistry 156; Chemistry 157A-157B or Biological Chemistry 101A-101B or 201A-201B or equivalent. Chemical and physical properties of proteins, nucleic acids and other macromolecular complexes with emphasis on theory and methodology; correlation of structure and biological properties, chemical synthesis and properties of polypeptides and polynucleotides. Mr. Glitz

M255. Protein Dynamics and Function. (Same as Chemistry M255.) Lecture or recitation, three hours. Prerequisites: Chemistry 110A; Chemistry 156; Chemistry 157A-157B or Biological Chemistry 101A-101B or 201A-201B or equivalent. Chemical and physical properties of proteins, nucleic acids and other macromolecular complexes with emphasis on theory and methodology; correlation of structure and biological properties, chemical synthesis and properties of polypeptides and polynucleotides. Mr. Glitz

M257. Physical Chemistry of Biological Macromolecules. (4 course) (Same as Chemistry M257.) Lecture, two hours. Prerequisite: Chemistry 110A or 22 or consent of the instructor. Theory of hydrodynamic, thermodynamic, optical and x-ray techniques and theory of the structure and function of biological macromolecules. The Staff

259. Biochemical Endocrinology. (4 course) Prerequisite: Biological Chemistry 101A-101B or 201B, or Chemistry 153 or equivalent. A lecture course emphasizing aspects of the structures of peptide and steroid hormones, with cell receptors. The physical and chemical properties of hormone receptors, the molecular mode of action of peptide and steroid hormones, and the role of second and third messengers in hormone action. Mr. Coty, Mr. Pierce, Mr. Roberts

260A. Seminar in Biological Chemistry. (4 course) Lecture and recitation, two hours. Prerequisite: consent of the instructor. Oral reports by graduate students on topics selected from current biological chemistry. Graded S/U only. The Staff

M261. Advanced Chemistry and Biochemistry of Lipids. (4 course) (Same as Chemistry M261.) Lecture, two hours. Prerequisites: courses 101A-101B or 201A-201B, Chemistry 157A-157B or equivalent. Knowledge of elementary chemistry and biochemistry of lipids essential. The biochemistry of lipids including chemical and physical characteristics of lipids and their metabolism. Mr. Mead, Mr. Popjak


M264. Molecular Basis of Atherosclerosis. (4 course) (Same as Chemistry M264 and Microbiology M264.) Prerequisite: M216 or equivalent with consent of instructor. The course will cover the biochemistry, morphology and physiology of atherosclerosis. Emphasis will be placed on the chemistry of lipoproteins and the role of plasma lipoproteins on regulation of tissue lipid metabolism and the development of atherosclerosis. The Staff

265. Seminar in the Biochemistry of Nucleic Acids. (4 course) Lecture or recitation, one hour. Prerequisites: Chemistry or Biological Chemistry M253 or equivalent. Biochemistry and chemistry of nucleic acids and nucleotides. Mr. Glitz

266A-266B-266C. Seminar in the Biochemistry of Differentiation. (4 course each) Lecture or recitation, one hour. Prerequisite: consent of the instructor. A review of the current literature covering the chemical mechanisms underlying the developmental process including: control of gene expression, metabolism in developing systems, specific expression of function and control of enzyme synthesis, external parameters determining cellular expression and characteristics of the single cell. Mr. Harary, Mr. Herschman

M267. Macromolecular Metabolism and Subcellular Organization. (1 course) (Same as Chemistry M267.) Lecture or recitation, five hours. Prerequisites: Chemistry 157A-157B or Biological Chemistry 101A-101B or 201A-201B or equivalent. Recommended: Chemistry-Biological Chemistry M253. Metabolism of nuclear acids and proteins, biosynthesis of complex lipids and polysaccharides, structure and properties of cellular organelles. The Staff

M269. Developmental Biochemistry. (4 course) (Same as Chemistry M269.) Lecture, two hours. Prerequisites: Biological Chemistry 267 or consent of instructor. This course will deal with the biochemical aspects of development, specific tissue and cell function, and differential gene expression. The Staff

596. Directed Individual Study and Research. (4 to 3 courses) Laboratory, by arrangement. Prerequisite: consent of graduate adviser. Graded S/U. The Staff

597. Preparation for Examinations. (4 to 1 course) Prerequisite: consent of the graduate adviser. Individual study for qualifying examination for Ph.D. or comprehensive examination for the master's degree. Graded S/U. The Staff

598. Preparation of the Master's Thesis. Prerequisite: consent of the graduate adviser. Preparation of research data and writing of master's thesis. The Staff


BIOLOGY

(Department Office, 2203 Life Sciences Building)

Albert I. Barber, Ph.D., Professor of Cell Biology.
George A. Bartholomew, Ph.D., Professor of Zoology.
Joseph J. Cacarano, Ph.D., Professor of Cell Biology.
David J. Chapman, Ph.D., Professor of Biology.
William R. Clark, Ph.D., Professor of Cell Biology.
Melvin F. Cody, Ph.D., Professor of Biology.
Nicholas E. Collins, Ph.D., Professor of Zoology.
Wilder T. Eberhard, Ph.D., Professor of Biology.
Roger O. Eckert, Ph.D., Professor of Zoology.
Eric B. Edney, Ph.D., Professor of Biology.
Franz Engelmann, Ph.D., Professor of Biology.
John P. Essl, Ph.D., Professor of Zoology.
Malcolm S. Gordon, Ph.D., Professor of Biology.
Alan D. Grinnell, Ph.D., Professor of Biology.
James A. Lake, Ph.D., Professor of Molecular Biology.
George G. Laties, Ph.D., Professor of Plant Physiology.
F. Harlan Lewis, Ph.D., Professor of Biology.
O. Kenneth Lunt, Ph.D., Professor of Biology.
Austin J. MacInnis, Ph.D., Professor of Cell Biology.
Leonard Munsie, Ph.D., Professor of Biology.
Paul W. Olson, Ph.D., Professor of Zoology.
Bernard 0. Pinhey, Ph.D., Professor of Biology.
Dan S. Ray, Ph.D., Professor of Molecular Biology.
Winston A. Rabinowitz, Ph.D., Professor of Biology.
Larry Simpson, Ph.D., Professor of Cell Biology.
Frederick E. Sporn, M.D., Ph.D., Professor of Molecular Biology.
W. Daniel Stice, Ph.D., Professor of Cell Biology.

NOTE: For key to symbols, see page 74
Requirements for the Major

1. Six unit courses (11Z courses) count as only one course.
2. A maximum of eight units of Biology 190 or four units of Biology 199 may be used for fulfillment of the major.
3. Courses taken to fulfill 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.

Transfer Students

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 its equivalent, and 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.

Honors in Biology

Requirements for admission to candidacy for Honors in Biology are the same as those required for admission to the Honors Program of the College of Letters and Science. Highest Honors in Biology are awarded to those Biology majors who have a GPA of 3.60 overall and a 3.60 in the major at graduation and who have satisfactorily completed Biology 190.

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 a graduate school are urged to seek advice of staff members in their field of interest. Prospective applicants to this department are invited to visit the campus for this purpose.

The departmental requirements (including those in the basic sciences) leading to advanced degrees in Biology, but certain fields of study will require additional training in the basic sciences. Work in additional fields may be pursued by qualified students on a limited basis through directed individual studies at the Santa Catalina Marine Biological Laboratory. Consult the Student Affairs Office for additional information.

Master's Degree

In addition to the general requirements of the Graduate Division, the department of Biology requires oral and/or written examinations of any candidate for the Master's degree. Although there is no formal foreign language requirement, a reading knowledge of a foreign language is a prerequisite for admission to certain seminars and advanced courses.

Ph.D. Degree

In addition to the general requirements of the Graduate Division, one candidate for the Ph.D. degree is required to pass departmental examinations and to serve as a teaching assistant for at least one year. There is no standard language requirement; it is determined by the sponsor based on the needs of the candidate.

Requirements for the Standard Credential in Secondary Teaching

Consult the UCLA Announcement of the Graduate School of Education.

Lower Division Courses

2. Principles of Biology. Lecture, three hours; laboratory, one and one-half hours. Lecture: 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: structure and function of cells, morphology of plants and animals, circulatory and nervous systems, embryology, plant diversity and adaptation, human genetics. Offered for students other than majors in the biological sciences. Not open to students who have had Biology 48B or 5 and 7.

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. The Staff

6. Ecology and Evolution. Lecture, three hours; discussion, one hour. Prerequisites: course 5 and Mathematics 3A or 31A. A survey of the principles of population genetics, including natural selection, predation, community ecology, environmental physiology, population genetics, natural selection, and speciation. The Staff

6L. Organismic and Environmental Biology Laboratory. (4 course) Laboratory, three hours. Prerequisite: course 6 (may be taken concurrently with Biology 6). Introductory Biology Laboratory including basic cell and microorganism organization, morphology and diversity of organisms, population biology, evolution, and community ecology. The Staff

7. Introductory Cellular and Molecular Biology. Lecture, three hours; discussion/demonstration, one hour. Prerequisite: course 5; Chemistry 23 is strongly recommended. An integrated introduction to cellular and subcellular biology, including bioenergetics, cells and organs of molecular biology, cell cycles, and developmental biology. The Staff

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. The Staff

8L. Cellular and Molecular Biology Laboratory. (4 course) Laboratory, three hours. Prerequisite: course 8 (may be taken concurrently with Biology 8). Introductory laboratory experience including: bacterial growth, mitosis and meiosis, genetics, molecular biology and developmental biology. The Staff

10. Plants and Civilization. Lecture, three hours; lecture-demonstration, one hour. 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 mutual histories. Designed for non-majors. Mr. Schroeder (FSp)

11. Field Botany. Lecture, two hours; laboratory, six hours; required field trips. An introduction to the systematics, morphology, and ecology of the local flora (native and cultivated). Use of keys for identification; morphological characteristics of common families of vascular plants; plant communities and environmental factors affecting their distribution; emphasis on California. Designed for non-majors. Mr. Schroeder (FSp)

12. Taxonomy and Ecology of Ornamental Plants. Lecture, one hour; laboratory and field trips, six hours. The origin, classification and identification of the more important ornamental plants in southern California with an emphasis on their environmental requirements and adaptation. Designed for non-majors. Mr. Lewis

13. Evolution of Life. Lecture, three hours; discussion, one hour. Limited to 100 students. Not open to Life Sciences majors. An introduction to biology with an emphasis on the theory of evolution. The relationships of evolutionary thought to other areas of knowledge and society. Natural selection and the origin of variation are examined in the context of genetics, molecular biology, physiology, phylogeny, population dynamics, behavior and ecology. Stress is laid upon the critical role of historical processes. The Staff

20. Introduction to Human Heredity. Lecture, two hours; discussion, one hour; laboratory, two hours.
This course is not open to students with a previous college course in genetics, nor is it intended to satisfy the requirements of medical or dental schools. Modern and conventional elements of higher plant biology will be introduced through lectures, readings and laboratory exercises with *Drosophila*. Topics will include prenatal development, Mendelizing factors, the role of amino acids in heredity and the role of genes in disease and population structure. The Staff (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. The Staff

25. The Oceans. Lecture, three hours; discussion, one hour. Not open to students in the sciences or to students who have taken Earth and Space Sciences M117. The Staff

### Upper Division Courses

Upper division standing and completion of Biology 4A-4B or 5, 6, 7 and 8 or equivalent or consent of instructor are required for admission to all upper division courses.

#### 100. Biology of Lower Plants (1½ courses) Lecture, four hours; laboratory, six hours. Prerequisite: course 5 or equivalent or consent of instructor. An introduction to the biology of algae, fungi and bryophytes, with emphasis on form, function and development, and the role of lower plants in the environment. Limited enrollment. The Staff

#### 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 biology of flowering plants, with emphasis on form and function, and the role of plants in the environment. Students are strongly encouraged to take both 100 and 101 since these represent a core course sequence to survey the entire plant world as appropriate background for upper division courses in plant biology. Mr. Chapman

#### 102. Biology of Marine Invertebrates (1 or 1½ courses) Lecture, five hours; laboratory, fifteen hours (five week intensive course). Prerequisites: Preparation for the Major and consent of instructor. Morphology, systematics, life histories and natural history, ecology, behavior, and physiology of marine invertebrates; emphasis on local invertebrates of southern California and their habitats. Course to be given at the Catalina Marine Science Center. Mr. Morin, Mr. Muscatine, Mr. Vance

#### 103. Taxonomy of Flowering Plants. Lecture, two hours; laboratory and field trips, six hours. The evolution, systematics, and distribution of the families of flowering plants. Prerequisites: course 111 and consent of instructor. Limited enrollment. The Staff

#### 104. Biology of Marine Vertebrates. (1 or 1½ courses) Lecture, two hours; laboratory, six hours. Prerequisite: completion of preparation for the Major and consent of instructor. Selected aspects of the natural history, ecology, physiology and behavior of vertebrates living in marine environments. To be offered as a concentrated five or seven week course for four or six units credit as part of the Catalina Marine Biology Quarter. Mr. B. Gordon, Mr. B. Walker

#### 105. Biology of Invertebrates. (1½ courses) Lecture, three hours; laboratory, six hours (includes field trips). Prerequisite: completion of all courses listed under 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 the equivalent and the consent of the instructor. Course 106A is a weekend course. Advanced course on natural history, physiology, biochemistry of invertebrates with emphasis on independent laboratory and field investigations. Mr. Morin, Mr. Muscatine (F)

#### 107. Entomology. Lecture, three hours; laboratory, six hours. Prerequisite: course 105 or consent of the instructor. Systematics, distribution, and biometrics of hexapods and arachnids. Mr. Belkin

#### 108. Terrestrial Arthropods. Lecture, three hours; laboratory, six hours; several field trips. Prerequisite: course 105 or consent of the instructor. Morphology, systematics, and biometrics of hexapods and arachnids. Mr. Belkin

#### 109. The Development of Evolutionary Theory. Lecture, three hours; discussion, one hour. A study of the historical development of the physical and biological concepts which have led to current evolutionary theory. These concepts are considered in context of the social circumstances in which they originated. Enrollment limited to 80 students. The Staff

#### 110. Vertebrate Morphology. Lecture, three hours; laboratory, four hours. Prerequisite: completion of all courses listed under Preparation for the Major. A study of vertebrate morphology and evolution from the viewpoint of: comparative anatomy of adult forms, development, paleontology, laboratory study of selected vertebrates. Mrs. Peterson, Mr. Vaughn (F, W)

#### 111. Biology of Vertebrates. Lecture, three hours; demonstrations, field trips, discussions, three hours. Prerequisite: completion of all courses listed under Preparation for the Major. 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 110 and 111. The systematics, ecology, behavior of fishes, with special emphasis on local marine forms. Mr. B. Walker

#### 113. Herpetology. (1 or 2 courses) Prerequisites: One of the following: Biology 111, 120 or 122, and consent of the instructor. Herpetology will be offered alternatively as a four unit course (7-8 week quarter) or as a 6-unit course as part of the Field Biology Quarter. The 4-unit course has lecture, three hours, laboratory, six hours, and approximately 4½ hours of field work. The systematics, distribution, physiology, behavior and ecology of amphibians and reptiles will be covered. The 8-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. Mr. Gorman

#### 114. Ornithology. Lecture, two hours; laboratory, discussion, field trips, six hours. Prerequisites: course 111 and consent of the instructor. The Staff

#### 115. Mammalogy. Lecture, two hours; laboratory and field trips, six hours. Prerequisite: course 111 or the equivalent and consent of the instructor. The evolution, ecology, behavior and physiology of mammals. The Staff

#### 116. The Evolution of Mammalian Dentitions. Lecture, two hours; laboratory, six hours. Prerequisite: consent of the instructor. Limited enrollment. The origin and adaptive radiation of mammalian teeth is considered with special emphasis upon morphological aspects of change relative to function. Tooth histology and embryology are studied. Laboratory work involves study of dental morphology and histology. The Staff

#### M107. Vertebrate Paleontology. (Same as Earth and Space Sciences M117) Lecture, three hours; laboratory, three hours. Prerequisite: course 110. Recommended: a course in general geology. Limited enrollment. The fossil record of the evolution of the vertebrates, with emphasis on the morphology of primitive forms in the transition from fish to mammal. Mr. Vaughn

#### 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 M111 or M117. Study of morphology, paleobotany, and evolution of vascular and nonvascular plants during geologic time, and particular emphasis on major evolutionary events. Mr. Schopf

#### 120. Evolutionary Biology. Lecture, three hours; laboratory, two hours. Prerequisites: completion of all courses listed under Preparation for the Major; Mathematics 31A-31B-31C is highly recommended. Recommended for biology majors specializing in environmental and population biology. Introduction to the mechanics and processes of evolution with emphasis on natural selection, population genetics, speciation, evolutionary rates, and patterns of adaptation. Mr. Cody, Mr. Hespenheide (W)

#### 121. Seminar in Ecology. (½ course) Discussion two hours. Prerequisites: course 120 or 122 and consent of instructor. Undergraduate seminar in ecology; reading and discussion of current research, including preparation of research and annotated bibliography. May be repeated twice for credit. Mr. Hespenheide

#### 122. Ecology. Lecture, three hours; laboratory, three hours. Prerequisites: completion of all courses listed under Preparation for the Major; Mathematics 31A-31B-31C is highly recommended. Recommended for biology majors specializing in environmental and population biology. Introduction to population and community ecology, with emphasis on the growth and stability 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. (1 or 2 courses) Prerequisites: Must be approved for scuba diving from UCLA diving officer, and consent of instructor; course 105 and 112 are recommended. This course will be offered either as a full quarter course for 4 units credit or in the Field Biology Quarter for a concentrated five-week course for 6 units credit. Field study of the natural history and ecology of marine organisms and communities. Field work will involve scuba diving. Part of the course will be devoted to an independent research project. Mr. Morin, 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. Study of biotic and abiotic factors in ecological communities, including population interactions, energy flow, and nutrient cycling. Field trips include a week on the coast. Mr. Cosby.

125. Plant Population Ecology. (1 or 2 courses) Lecture, two hours; laboratory, six hours; field trips. Prerequisites: course 120 and consent of instructor. This course will be offered either as a full quarter course for students not enrolled in the Field Biology Quarter, or as a concentrated five-week course for 8 units credit. A study of ecological variation, structure, distribution, and reproductive biology of plant populations emphasizing field studies of selected population and ecosystem types. Mr. Cosby.

M127. Soils, Plants, and Society. (Same as Geography M127) Lecture, four hours; field trip. Prerequisites: Chemistry 1A, 1B, or equivalent or consent of instructor. A general treatment of soil development, soil-plant relationships, and the physical and chemical properties of soils as they relate to plant growth and distribution; soil resources, management, conservation and cultural aspects. Soil profiles examined on the field trip are used to explain developmental phenomena. Mr. Lunt.

128. Plant Physiological Ecology. (1 or 2 courses) Lecture, three hours; laboratory and field, three hours. A study of plant-environmental interactions under natural conditions. Emphasis is on transpiration and photosynthesis, leaf, stem, and root water movement in the soil-plant-atmosphere continuum. Individual student projects. When the course is given as part of the Field Biology Quarter, the field trip will be correspondingly expanded. Mr. Nobel.

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

130. Behavior Research Problems. Lecture, three hours; laboratory, two hours. Prerequisite: consent of the instructor. Systems controls and non-organized long-term procedures for behavior research in the laboratory and in the field. Rationale, design, and limitations of laboratory studies of behavior. Mr. Kavanau.

131 I Insect Ecology. (1 or 2 cour. s) Lecture, two hours; laboratory or field trip, eight hours. Prerequisites: course 120 or 122 and consent of instructor. Analysis of the ecological roles of insects in terrestrial communities, with emphasis on interactions between both plants and vertebrates. Students with previous experience in insect collection are particularly encouraged. The course may also be given as a quarter-long course with weekend field trips or as part of the Field Biology Quarter. When given as part of the Field Biology Quarter, it will be six units and the amount of field work arranged according to individual need. Mr. Pease.

M132. Comparative Genetics. (Same as Microbiology M132) Lecture, three hours; discussion/demonstration, one hour. Prerequisites: course 4A-4B or 5, with grade of C or better, or consent of instructor. Analysis of the fundamental principles of molecular biology, or consent of instructor. Mendelian principles; the gene: structure, function, and chemistry, with emphasis on epistasis, coding regulation, and transposition. Not open to students who have had M133.

Mr. Grunstein, Mr. Siegel (F, W, Sp)

M134. Human Genetics. (Same as Biochemistry M134) Lecture, three or four hours; discussion, one or two hours. Prerequisites: Biology 4A-4B, equivalent organic chemistry and biochemistry.

M135. Population Genetics. Lecture, three hours; discussion, one hour. Prerequisite: course M132. Mathematics 3A-3B-3C is highly recommended. Basic principles of genetics of population, dealing with the genetic structure of natural populations and the mechanisms of evolution. The course will cover equilibrium conditions and the forces altering gene frequencies, polygenic inheritance, and the methods of quantification. The Staff.

136A-136B-136C. Seminar in Genetics. (% course each) Discussion, two hours. Prerequisites: course M132 or M134, and consent of the instructor. Undergraduate seminar in genetics; reading and group discussion of current research in genetics. Mr. Siegel (F, W, Sp).

137. Morphogenesis. Lecture, three hours; discussion, one hour. Prerequisite: completion of Pre-biology Major. Study of embryonic development. Emphasis will be on the morphogenetic events in insect, avian, amphibian and mammalian species.

The Staff.

138. Developmental Biology. Lecture, two hours; discussion, one hour. Prerequisite: completion of all courses listed under Preparation for the Major. Synopsis of fundamental concepts in embryology and a survey of current topics in developmental biology. Ms. Lengyel, Mr. O'Connor, Mr. Tobin (F, W, Sp).

139. Introductory Laboratory in Developmental Biology. Lecture, two hours; laboratory, six hours. Prerequisites: course 138 and consent of the instructor. A laboratory course in Developmental biology including cell and organ culture and biochemical analysis of developing systems. The Staff.

140. Plant Development and Differentiation. Lecture, two hours; laboratory, four hours. Prerequisites: Biology 4A-4B (or 5 and 7) or consent of instructor. A study of the ontogeny of the vascular plant body and comparisons of that development among the major plant taxa; discussion of the concepts of plant development. Mr. Schroeder.

141. Molecular Basis of Plant Differentiation and Development. Lecture, three hours; discussion, one hour. Prerequisites: course 4A-4B or 5, 6, 7, 8. An in-depth study of the basic processes of development and growth as they relate to the developmental process as it relates to the plant kingdom. A variety of developing systems will be discussed (protoplasts, fungi, lower and higher plants) with the goal of developing a unified concept of differentiation. Mr. Goldberg, Ms. Tobin (Sp).

142A-142B-142C. Seminar on Topics in Developmental Biology. (% course each) Discussion, two hours. Prerequisites: course 138 and consent of the instructor. Undergraduate seminar on topics in developmental biology emphasizing information of current research. Will be offered each quarter.

Ms. Lengyel, Mr. O'Connor, Mr. Tobin (Sp)

144. Molecular Biology. Lecture, three hours; discussion, one hour. Prerequisite: completion of all courses listed under Preparation for the Major. Course M132 is strongly recommended. A course in molecular biology emphasizing the synthesis, structure, function and interactions of biological macromolecules.

Mr. Brunk, Mr. Fessler, Mr. Ray (F, W, Sp).

145A-145B-145C. Molecular Biology Laboratory. Laboratory, twelve hours. Prerequisite: consent of the instructor. It is highly desirable that the student have already taken course 144. A course in experimental molecular biology in which the student carries out original research under supervision. Space available is limited, and arrangements must be made in advance with the instructor.

146. Physicochemical Biology. Lecture, four hours. Prerequisite: completion of all courses listed under Preparation for the Major. A physicochemical analysis of the physiology of cells and organelles with emphasis on membranes, thermodynamics of biological systems, energy transfer, subcellular energy transduction. Mr. Nobe.

147. Biological Oceanography. Lecture, five hours; laboratory, fifteen hours (five week intensive course). Prerequisites: completion of preparation for the Major and permission of instructor. Lecture. Physical, chemical, and biological factors affecting the composition and distribution of plankton. Natural history of major phytoplankton and zooplankton taxa; production in marine food chains; adaptation to pelagic habitat. Laboratory: systematic morphology of major plankton taxa; experimental studies of local marine plankton with emphasis on measurement of feeding, primary and secondary productivity, and nutrient flux. Course to be given at the Catalina Marine Science Center. Mr. Muscatine.

148. Biology of Marine Plants. (Formerly numbered 101) Lecture, five hours; laboratory, 15 hours. Prerequisite: for Preparation for the Major and consent of instructor. A survey course emphasizing plant-specific biochemistry, including photosynthesis; nitrogen fixation and metabolism; sulfur metabolism; respiration; plant pigments, lipid metabolism, and nucleic acids; the cell wall; terpenes; alkaloids and flavonoids. Mr. Thornber.

150. Experimental Physiology and Mycology. Lecture, three hours; discussion, one hour; laboratory, six hours. Prerequisite: course 100 or equivalent or consent of instructor. Study of fungi emphasizing basic concepts in such topics as photosynthetic phenomena, physiology of growth, nutrition and reproduction: the physiology of algae. Laboratory: isolation and culture techniques and experiments designed to introduce students to a wide range of experimental uses of algae and fungi. Mr. Chapman.

152. Functional Plant Anatomy. Lecture, three hours; laboratory, six hours. Prerequisite: completion of all courses listed under Preparation for the Major or consent of the 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 all courses listed under Preparation for the Major. An introduction to descriptive and functional histology, using light and electron microscopic information. Discussion of histological research methods. Mr. Lake (Sp).

154. Functional Ultrastructure of Cells and Tissues. Lecture, three hours; discussion, one hour. Prerequisites: Biology 21, 22, 24 or equivalent. Basic light processes at the supramolecular and molecular levels of cells. Functional significance of membrane structure, molecular basis of absorption, secretion and muscle contraction, conventional and advanced techniques in ultrastructural analysis, electron microscopy, and interpretations of structural information. Mr. Sjostrom.
155. Analytical Microscopy and Cytology. Lecture, three hours; laboratory, three hours. Prerequisites: Physics 3A-3B-3C or 6A-6B-6C or equivalent or consent of instructor. 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. Englemann.

158. Cell Biology. (1½ courses) Lecture, three hours; laboratory, six hours. Prerequisites: completion of all courses listed under Preparation for the Major. Water movement within the plant body and between the plant and its environment. Soil genesis, characteristics and plant-soil interactions. Salt movement across membranes and through tissues. Hormonal control of growth and development. Photomorphogenesis. Photoperiodism and flowering. Photochemical and physiological aspects of photosynthesis. Mr. Laties, Mr. Thornber (F).

162. Plant Physiology. Lecture, three hours; laboratory, one hour. Prerequisite: completion of all courses listed under Preparation for the Major. The physiology of terrestrial arthropods in relation to their distribution in natural habitats. Mr. Cascarano, Mr. James, Mr. Simpson (W).

163. Plant Physiology Laboratory. Lecture, one hour; discussion, one hour; laboratory, eight hours. Prerequisite: course 162. Students will be introduced to the instrumentation used in Plant Physiology research by performing experiments based on the experiments conducted in the major courses. Subsequently, students working singly or in groups will undertake a research project of their own design. Limited enrollment. The Staff.

166. Animal Physiology. (1½ courses) Lecture, three hours; laboratory, five hours. Prerequisite: completion of all courses listed under Preparation for the Major. Normally to be taken after course 158. An introduction to physiological principles with emphasis on organ systems and intact organisms. Mr. Eckert, Mr. Engelmann, Mr. Narins (F,Sp)

168. Insect Physiology. Lecture, two hours; laboratory, six hours. Prerequisite: course 158 or 166 or the equivalent. Survey of the physiology of insects with emphasis on functional adaptations. Mr. Fogel, Mr. Engelmann (F,Sp).

169. Comparative Physiology. Lecture, three hours; laboratory, four hours. Prerequisites: courses 158 and 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. Edney.

171. Principles of Neurobiology. Lecture, three hours; discussion, one hour. Prerequisite: course 166 or consent of instructor. An introduction to basic principles of neurobiology, including a description of the structure of neurons and nervous systems, the ionic mechanisms responsible for generating membrane potentials, action potentials, and synaptic potentials; the properties of synaptic transmission, the information transduction and coding in sensory pathways, and the neural control of movement. Emphasis will be on the functional interconnections between cells of the nervous system. Mr. Eckert, Mr. Grinnell, Mr. O'Lague.

172A-172B. Introductory Laboratory in Neurophysiology. Laboratory, eight hours each. Prerequisite: course 171 or consent of instructor. Limited enrollment. 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. To be taken concurrently. Mr. Eckert, Mr. Grinnell, Mr. O'Lague.

173. Anatomy and Physiology of Sense Organs. Lecture, three hours; discussion, one hour. Prerequisite: course 171 or the equivalent. The anatomy and physiology of the various sense organs, with a comparative approach to the functional aspects. Mr. Narins.

177. Introductory General Endocrinology. Lecture, three hours; discussion, one hour. Prerequisite: Biochemistry, course 158 or 166 or the equivalent. Principles of chemical integration in biological systems. Mr. Engelmann.

179. Invertebrate Endocrinology. Lecture, three hours. Prerequisite: course 158 or 166 or consent of the instructor. A comprehensive treatment of invertebrate endocrinology. Mr. Engelmann.

180. Advanced Topics in General Endocrinology. Lecture, three hours; discussion, one hour. Prerequisite: course 177 or consent of instructor. Detailed consideration of selected mechanisms in endocrine control of growth and differentiation. Ms. Szeug.

181. Parasitology and Symbiosis. (1½ courses) Lecture, three hours; laboratory, six hours. Prerequisites: courses 4A-4B or 5 and 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 the instructor. Introduction to the use of parasites in experiments concerning basic biological problems and to problems concerning parasitism. Mr. Macinnis.

184. Mathematical Ideas in Biology. Lecture, three hours; discussion, two hours; laboratory, five hours. Prerequisites: one year of calculus and consent of the instructor. The use of mathematical ideas and analysis in the formulation and evaluation of theories of biological phenomena, such as growth, growth control, biological rate processes and applications of random walk theory. Coverage of topics will be tailored to specific student interests. Mr. Kavanna.

185. Immunology. (Same as Microbiology M185 and Microbiology and Immunology M185.) Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 23, 25; course M132. Concurrent enrollment in Chemistry 152 or 156 is recommended. An introduction to the basic immunobiology and immunochemistry; cellular and molecular aspects of humoral and cellular immune reactions. Mr. Clark, Mr. Sercarz.

186. Immunology Laboratory. (½ course) (Same as Microbiology M186 and Microbiology and Immunology M186.) Prerequisites: course M185 and consent of the instructor. This course will focus on a limited number of situations designed to train the student in organizing and evaluating immunological laboratory experiments. Must be taken concurrently with Biology M187. Mr. Clark, Mr. Sercarz.

187. Immunology Seminar. (½ course) (Same as Microbiology M187 and Microbiology and Immunology M187.) Discussion, two hours. Prerequisite: course M185 and consent of instructor. 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.

188. Seminar on Biology and Society. (½ course) Prerequisites: senior standing and consent of the instructor. A functional debate; either or both as background for policy and as an introduction to a functional debate of topics in biology, including systemsatics, distribution, behavior, and ecology. Students will carry out individual study projects in laboratories, museum, or field. Mr. Howard.

NOTE: For key to symbols, see page 74
211. Animal Sociology. Lecture, two hours; discussion, two hours. Prerequisite: course 129. The behavior of Animals of equivalent and consent of the instructor. Evolution, analysis, physiology, ecology and evolution of different social systems in animals. Mr. Collias

213. Community Ecology. Lecture, three hours. Prerequisites: course 122 or equivalent, one year of calculus. Investigation of the structure and function of marine and terrestrial communities. Topics may include the concepts of coexistence, competition, niche and diversity. Mr. Cody

214. Physiological Ecology.  (½ course) Lecture, two hours. Prerequisite: course 111. A detailed consideration of the role of physiology and biochemistry in the autecology of organisms in natural environments. Mr. Bartholomew, Mr. Nagy

215. Theoretical Ecology. Lecture, three hours. Prerequisites: course 122, one year of calculus and consent of instructor. The use of mathematical models in studying ecological systems. A wide range of autecological and synecological models will be treated; relevant mathematical techniques, which include parts of basic calculus, differential equations and probability, will be reviewed as necessary. Mr. Vance

217. Marine Ecology. (2 courses) This course is given at the Santa Catalina Marine Biological Laboratory. Structure, diversity and energetics of marine communities; behavior, population dynamics, and biogeochemistry of component species; aspects of oceanography and geology. Mr. Vance

218. Oceanology. (2 courses) This course is given at the Santa Catalina Marine Biological Laboratory. Ecology and dynamics of pelagic and benthic associations, the physical properties of seawater and marine substrates and their biological significance; qualitative and quantitative methods of oceanography. The Staff

219. Animal Behavior in Laboratory and Field. Discussion, two hours; laboratory, six to eight hours. Prerequisites: courses 129 and consent of the instructor. Limited Enrollment. Laboratory and field studies of selected problems in animal behavior. Mr. Collias

220. Multigena Families. Lecture, two hours; discussion, two hours. Prerequisites: Biology M132 and 144 (or equivalent) and consent of instructor. Analysis of the molecular structure, developmental regulation, and evolution of multigene families. Topics to be discussed will include the homologous globulins, histones, signal transduction, protein kinases, the immune response, major histocompatibility antigens. Mr. Campbell, Mr. Tobin

221. Genetic Analysis. Lecture and discussion, three hours. Prerequisite: course M132 or equivalent. Examples of genetic analysis in eukaryotic organisms by means of mutation and chromosome changes. Readings in the literature will be provided. Topics to be presented include Drosophila chromosome behavior; techniques of gene localization; the one gene-one chromosome hypothesis, meiotic mutants, mosaic animals and cell lineage, behavior, and X-chromosome inactivation. Mr. Merriam

222. Special Topics in Development. Lecture, three hours. Variable topics emphasizing the control of eukaryotic cell differentiation and morphogenesis. Special attention will be given to the role of hormones in the modulation of gene expression during development. Mr. O'Connor

223. Advanced Topics in Molecular Biology. Lecture, three hours; discussion, one hour. Prerequisite: consent of the instructor. Each offering of the course will treat a different topic of current interest in molecular biology. The topic will be covered in depth at a level appropriate to advanced graduate students. The course will include lectures, discussion and presentations by students. Mr. Brunk

232. Experimental Molecular Developmental Biology. (2 courses) Lecture, one hour; discussion, two hours; laboratory, 12 hours. Prerequisites: biology M132, 144, or equivalent. 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, 20 hours. Prerequisite: consent of instructor. Electron microscopy techniques applied to structure of cells and to molecular structure of cellular components. Intensive training in electron microscope techniques and in the use of the electron microscope for high resolution electron microscopy. Mr. Spotswood

234. Advanced Topics in Development. Lecture, three hours; discussion, one hour. Prerequisite: course 138 or equivalent. A 4-unit lecture course covering selected advanced level, special topics in areas such as: changes in gene activity during development, hormone action during development, cell commitment and differentiation, development genetics, plant development, and developmental neurobiology. Ms. Lengyel and the Staff

235. Advanced General Physiology. Lecture, three hours. Prerequisite: course 158 or 161. Discussion of specific topics such as excitation, conduction, physiology of blood, muscle contraction, etc. Students will participate in giving reports. The Staff

236. Experimental Cell Biology. Lecture, two hours; discussion, one hour; laboratory, four hours. Prerequisites: course 158 and consent of the instructor. Theoretical and experimental analysis of experiments designed to study cellular morphology and physiology: cell organelles, cell populations and organized tissues. Mr. Cascaran, Mr. James

238. Structure and Function of the Mitochondrion. Lecture, three hours. Prerequisite: course 138. Chemistry 22 and consent of the instructor. Origin, maintenance and function of the mitochondrion as an essential subcellular organelle in the eukaryotic cell. Mr. Simpson

239. Laboratory Techniques in Nucleic Acid Research. (2 courses) (Same as Microbiology M239.) Lecture, two hours; discussion, one hour. Laboratory, 10 hours. Prerequisite: consent of instructor. Procedures in the manipulation of nucleic acids, including: isolation of RNA and DNA and RNA and physical and chemical characterization by several means; characterization of circular DNA molecules by electron microscopy, gradient centrifugation and restriction enzyme analysis, in vitro transcription and hybridization analysis. Mr. Nierlich, Mr. Simpson

240. Physiology of Marine Animals. (2 courses) This course is given at the Santa Catalina Marine Biological Laboratory. Lecture and laboratory studies on cellular, tissue, organ and population-level physiological regulatory biology: metabolic characteristics of cells; energy transformations. The Staff

241. Laboratory in Advanced Electrophysiology. (2 courses) Laboratory, twelve hours. Prerequisites: courses 171 and consent of the instructor. In-depth investigation of individual research projects under staff guidance. Approximately two projects each quarter. Course may be repeated twice. Mr. Eckert, Mr. Grinnell, Mr. O'Lague

242. Topics in Neurobiology. Lecture, three hours. Prerequisite: course 171 and consent of instructor. Selected current problems in neurobiology will be discussed in depth with emphasis on analysis of original papers. May be repeated for credit. Mr. Eckert, Mr. Grinnell, Mr. O'Lague
Candidates also must submit results of the Aptitude and the Advanced Tests of the Graduate Record Examinations. Through second-year calculus and elementary courses, students must have completed two years of mathematics.

BIOMATHEMATICS

(Chairman of the Department and Professor of Radiological Oncology)

16Wilfrid J. Dixon, Ph.D., Professor of Biomathematics (Vice Chairman of the Department) and Professor of Biostatistics and Psychiatry.

Olive Jean Dunn, Ph.D., Professor of Biostatistics and Biomathematics.

Robert E. Jerch, Ph.D., Professor of Biomathematics, Biostatistics and Mathematics.

Frank J. Massey, Ph.D., Professor of Biostatistics and Biomathematics.

Carol M. Newton, M.D., Ph.D., Professor of Biomathematics (Chairman of the Department) and Professor of Radiological Oncology.

Charles J. Stone, Ph.D., Professor of Mathematics and Biostatistics.

Robert M. Edelhoff, Ph.D., Associate Professor of Biomathematics and Biostatistics.

Kenneth L. Lange, Ph.D., Associate Professor of Radiological Oncology.

Arthur Peskoff, Ph.D., Associate Professor of Biostatistics and Physiology.

Mary Anne Spence, Ph.D., Associate Professor of Biostatistics in Residence.

Jacqueline Benedetti, Ph.D., Assistant Professor of Biomathematics in Residence.

Eli Eng, M.D., Ph.D., Adjunct Assistant Professor of Biomathematics.

Ping Yu Liu, Ph.D., Assistant Professor of Biostatistics in Residence.

Fred Dorey, Ph.D., Lecturer in Biostatistics.

Alan R. Froymuth, Ph.D., Computer Systems Designer, Department of Biostatistics, and Lecturer in Dentistry.

James W. Frane, Ph.D., Principal Statistician.

Edward Korn, Ph.D., Assistant Research Statistician.

M. M. Mickey, Ph.D., Lecturer in Statistics.

Nancy Mann, Ph.D., Senior Statistician.

Mary L. Raslowsky, Ph.D., Lecturer in Biostatistics and Assistant in Dentistry.

Biomathematics relates to the biological domain, much as mathematical physics relates to the physical. It also seeks to develop theoretical and computational vehicles for moving basic research findings rapidly and effectively into medicine. The methods of biomathematics are designed to acquaint the student in depth with mathematical models and computer programming.

Admission to Graduate Status

Candidates for admission to graduate status in the Department of Biomathematics must conform to the general admissions requirements set by the Graduate Division and have received the bachelor's degree in mathematics, one of the biological or physical sciences, or the premedical curriculum. Candidates must submit (1) two years of mathematics through second-year calculus and elements of organic chemistry and biochemistry (equivalent to Chemistry 21, 22, and 24). Ideal course preparation should also include the equivalent of Mathematics 150A-150B-150C, 115, and 135A-135B-135C: 16 or more quarter units of biology; 12 quarter units of physics (preferably equivalent to the Physics 7 series); physical chemistry (equivalent to Chemistry 110A-110B); and some training in statistical and computer methods. At the discretion of the Department, students lacking some of the preparation but with strong backgrounds in other areas pertinent to biomathematics may be admitted to graduate status, provided that deficiencies are removed by appropriate courses within a specified time after admission.

Requirements for the Master's Degree

Students entering graduate study in the Department of Biomathematics will normally be expected to pursue the Ph.D. degree. Exceptional cases may be considered for the Master of Science Degree and must meet the general requirements set by the Graduate Division for this degree, (see Master's Degree). Students for this degree will be encouraged to follow the Comprehensive Examination Plan. Those permitted to undertake the Thesis Plan will conform to University regulations for the Thesis Examination Plan. Requirements for the Doctor's Degree

Candidates for the doctorate in biomathematics must conform to the general requirements set by the Graduate Division for this degree (see candidate for Bachelor's Degree). For the Ph.D. degree, a thesis is required for completion of the final course.

Graduate Courses

200. Research Frontiers in Biomathematics. (4 units) Prerequisites: upper division standing, permission of instructor and chairperson. Individual research in some aspect of biomathematics designed to acquaint the student in depth with mathematical models and basic applications in biology. Must be taken for at least two quarters and for a total of at least two courses. A thesis is required for completion of the final course.

M. Maassen. The Staff

Graduate Adviser: Kenneth Lange, Ph.D.

Upper Division Courses

107. Introduction to Biomathematics in Genetics. Prerequisite: introductory genetics course and consent of instructor. A presentation of mathematical modeling in biology with specific reference to analysis of family data in genetics. Topics include linkage and polygenic inheritance.

110. Elements of Biomathematics. Prerequisite: calculus. Analysis of deterministic models including topics from combinatorial analysis, demography and 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. Emphasis on results and the staff.

M134. Human Genetics. (Same as Biology M134) Prerequisites: Biology 4A-4B, elementary organic chemistry and biochemistry (equivalent to Chemistry 21 and 22) and concurrent registration. Mewdiation principles and the gene, with emphasis on human examples. Topics include mutation at the locus, chromosome, family and population levels; in borne errors of metabolism; ascertainment bias; linkage; X inactivation; gene regulation. Not open to students who have taken either Biology or Biology M132.

W. Persh, M. Spence

153. Introduction to Computational Statistics. (Same as Mathematics M153) Prerequisites: Mathematics 150C or Mathematics 152B or the equivalent. Statistical analysis of the bivariate and multiple regression 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.

M. Newton

170A-170B-170C. Selected Biomathematical Topics for Researchers in Medicine and Biology. Prerequisite: none for 170A; for 170B and 170C, 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 techniques. Use of computer P/4 or similar.

C. J. Stone

171A-171B. Selected Topics for Dental Researchers. (4 units) Prerequisites: Of particular interest to students in dentistry. Instruction in critical and efficient reading of the dental literature, experimental design, analysis of data using BMD programs, and some basic modeling techniques.

O. J. Dunn

190A-190B. Honors Research in Biomathematics. Prerequisites: upper division standing, permission of instructor and chairperson. Individual research in some aspect of biomathematics designed to acquaint the student in depth with mathematical models and basic applications in biology. Must be taken for at least two quarters and for a total of at least two courses. A thesis is required for completion of the final course.

M. Maassen. The Staff

Graduate Adviser: Kenneth Lange, Ph.D.

Upper Division Courses

200. Research Frontiers in Biomathematics. (4 units) Prerequisite: consent of instructor. A series of presentations by the faculty on research frontiers in biomathematics.

M. Maassen. The Staff

201. Deterministic Models in Biology. Prerequisites: Linear algebra and differential equations. The conditions under which deterministic approaches can be employed are examined, and conditions where they do not apply are also considered. Topics receiving special attention include compartmental analysis, enzyme kinetics, membrane theory, and the homeostatic control of physiological systems.

M. Spence and the Staff


M. Maassen and the Staff

203. Stochastic Models in Biology. Prerequisite: Mathematics 150A or equivalent experience in probability. The mathematical description of biological relationships with particular attention directed to areas where the conditions for deterministic models are inadequate. Examples of stochastic models
drawn from genetics, physiology, ecology and a variety of other biological and medical disciplines.

Mr. Lange

204. Biomedical Data Analysis. Prerequisite: consent of instructor. The quantity and quality of observations made by the student will be enhanced 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 in laboratory and clinical research. Mr. Dixon

205. Electric Potential Problems in Membranes, Cells and Tissues, Prerequisites: Differential equations, functions of a complex variable, Brownian motion, deterministic models. Mr. Penkoff

206. Modeling of Cellular Systems. (4 units) Study of recently reported characterizations of the functional properties of cells. The course will be organized according to the identification of recurrent experimental situations and will be divided into four parts: (a) integration of biomechanics, (b) experimental inferences, (c) the role of computer models, (d) the role of cellular systems in the process of biological evolution. Mr. Penkoff

207. Modeling in Genetic Analysis. (Same as Anthropology M222C.) Prerequisite: graduate standing, course M222B, or consent of instructor. The course is a prerequisite for Anthropology M222CC. Mr. Smith

208. Modeling and Analysis of Neuroelectric Data. For biologists (espe., neuroscientists), but open to other science majors. Mathematical approaches for modeling and developing neural theory are applied to basic neurophysiological phenomena and neural models. Appropriate practical approaches and relationships to laboratory research and methods are emphasized. Ms. Newton

209. Models of Steady-State Biochemistry. (4 units) Prerequisite: undergraduate chemistry or biochemistry, mathematics through calculus, and either foreign language or physical science. The course will be organized according to the identification of recurrent experimental situations and will be divided into four parts: (a) integration of biomechanics, (b) experimental inferences, (c) the role of computer models, (d) the role of cellular systems in the process of biological evolution. Mr. Penkoff

210. Introduction to Biomedical Computation. Prerequisite: graduate standing. Basic concepts of data acquisition and machine computation, with special reference to biomedical applications. The Staff

211. Biomedical Laboratory Computation. Prerequisite: none; however, course 210 is highly recommended. Computational problems encountered in the direct application of biological data and an understanding of laboratory experiments are analyzed. Experience will be acquired in implementing approaches to these problems on a small laboratory computer widely used in the biological sciences. The Staff

212. Advanced Biomedical Computation. Prerequisite: course 210 or equivalent programming experience. Biomedical computation enables those having elementary FORTRAN programming to acquire skills in the use of the computer for research in biology. The course will employ computer methods for the study of exemplar biochemical subsystems from physiology. The Staff

M216. Computer and Biomathematical Applications in Radiological Sciences. (Same as Radiological Sciences M216.) Prerequisites: Biomathematics 210 and elementary calculus are recommended. Computer and biomathematical methods will be presented that relate to dosimetry, treatment strategies, biological effects of radiation, and laboratory research in radiotherapy and radiobiology. Mr. Frey, Ms. Newton

220. Topics in Biological Control Theory. Prerequisite: up to differential equations. Biochemical, physiological and neurological phenomena are treated theoretically using the methodology of cybernetics. The problem of the relationship between system and various approaches to understanding it are presented. Mr. Fox and the Staff

M231. Special Topics: Statistical Methods for Categorical Data. (Same as Public Health M201E.) Prerequisites: Public Health 100B or 101B, Math 150C or 152B or equivalent and consent of instructor. The Staff

M236. Probability Models and Statistical Methods in Genetics. (Same as Anthropology M222B.) Prerequisite: graduate standing, two quarters of statistics. Mathematics 3A, Anthropology M222A. An introduction to probability models and statistical methods in genetics. Maximum likelihood methods for estimating genetic parameters will be introduced. The Staff

M280. Computational Statistics. (Same as Mathematics M280 and Public Health M244C.) Prerequisite: Mathematics 115 and 150C or the equivalent. Statistical approaches to the design of statistical programs; pivoting and other techniques used in stepwise regression, nonlinear regression algorithms, algorithms for balanced and unbalanced data, and variance including the mixed model for linear and mixed models for linear and non-linear models. Mr. Jennrich


410. Biomedical Computing. Introduction. Some lectures as Biomathematics 210. A term project is required. Mr. DeLand

596. Directed Individual Study or Research in Biomathematics. (6 to 3 courses) This course will be offered for individual study or research on topics not covered by the offerings of the department. This course can be taken several times for credit when different topics are covered. A letter grade will be used. The Staff

CHEMISTRY

(Department Office, 3010 W.G. Young Hall)

Frank A. L. Anet, Ph.D., Professor of Chemistry.
Daniel E. Atkinson, Ph.D., Professor of Chemistry.
Kyle D. Bayes, Ph.D., Professor of Chemistry.
Paul D. Boyer, Ph.D., Professor of Chemistry.
Keith R. Chapman, Ph.D., Professor of Chemistry.
Donald J. Cram, Ph.D., Professor of Chemistry.
Donald E. Eisenberg, Ph.D., Professor of Molecular Biology in Chemistry.
Howard Reiss, Ph.D., Professor of Chemistry.
Verne N. Schumaker, Ph.D., Professor of Molecular Biology in Chemistry.
Robert L. Scott, Ph.D., Professor of Chemistry.
Robert A. Smith, Ph.D., Professor of Chemistry.
Robert V. Stevens, Ph.D., Professor of Chemistry.

Kenneth N. Trueblood, Ph.D., Professor of Chemistry.
John T. Wason, Ph.D., Professor of Geochimistry and Geophysics.
Charles A. West, Ph.D., Professor of Chemistry.
Francis E. Blacet, Ph.D., D.S.C., Emeritus Professor of Chemistry.
Clifford S. Garner, Ph.D., Emeritus Professor of Chemistry.
Thomas M. Jacobs, Ph.D., Emeritus Professor of Chemistry.
William F. Libby, Ph.D., Emeritus Professor of Chemistry.
James H. McCullough, Ph.D., Emeritus Professor of Chemistry.
William G. Young, Ph.D., D.S.C., Emeritus Professor of Chemistry.

Mark E. Bauer, Ph.D., Associate Professor of Chemistry.
William M. Gellert, Ph.D., Associate Professor of Chemistry.
Eric J. Heiler, Ph.D., Associate Professor of Chemistry.
John J. Jordan, Ph.D., Associate Professor of Molecular Biology in Chemistry.
Michael E. Jung, Ph.D., Associate Professor of Chemistry.
Jerome K. Kaesz, Ph.D., Associate Professor of Chemistry.
Charles E. Sterrue, Ph.D., Associate Professor of Chemistry.
Jeffrey J. Zink, Ph.D., Associate Professor of Chemistry.
Mark E. Beatty, Ph.D., Associate Professor of Chemistry.
John A. Gladysz, Ph.D., Assistant Professor of Chemistry.
Jay D. Gralla, Ph.D., Assistant Professor of Chemistry.
Steven C. Clarke, Ph.D., Assistant Professor of Chemistry.
Harold G. Martinson, Ph.D., Assistant Professor of Chemistry.
Joseph R. Murdock, Ph.D., Assistant Professor of Chemistry.
Eve McDermitt, Ph.D., Assistant Professor of Chemistry.
Robert M. Sweet, Ph.D., Assistant Professor of Chemistry.
Richard L. Weins, Ph.D., Assistant Professor of Chemistry.

Sandra L. Lamb, Ph.D., Lecturer in Chemistry.
Lawrence H. Levine, Ph.D., Lecturer in Chemistry.
Arlene A. Russell, M.A., Lecturer in Chemistry.
George C. Kennedy, Ph.D., Professor of Geochimistry and Geophysics.

Admission to Courses in Chemistry

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 D was received in a course prerequisite to that course, or if in the opinion of the Department the student shows other evidence of inadequate preparation.

A student may not repeat a chemistry course if he has credit for a more advanced course which has the first course as a prerequisite.

Preliminary Examination in Chemistry

Students who wish to enroll in course 11A or in course 11AH must take the Chemistry/Mathematics Preliminary Examination in Chemistry (or if in the opinion of the Department the student shows other evidence of inadequate preparation. The Department may deny admission to any course if a grade D was received in a course prerequisite to that course, or if in the opinion of the Department the student shows other evidence of inadequate preparation. The Staff

NOTE: For key to symbols, see page 74
Preparation for the Major

Required Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23, 25; Physics 8A, 8B, 8C (8D, strongly recommended); Mathematics 31A, 31B, 31C, 32A, 32C.

Another course, directly related to a student's career objectives, may be substituted for the fifth mathematics course upon approval of the Undergraduate Adviser. No specific foreign language is required; however, a reading knowledge of German (at least at the level of German 3) is strongly recommended for students planning to pursue graduate work in chemistry.

The Major

Chemistry 110A, 110B, 113A, 113A, 133B, 133C, 173, and two other upper division or graduate courses in chemistry including at least one laboratory course selected from 136, 144, 154, 174, and 184.

BIOCHEMISTRY MAJOR

The major in Biochemistry is intended for students preparing for careers in biochemistry or in other fields requiring extensive preparation in both chemistry and biology.

Preparation for the Major

Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23, 25; Mathematics 31A, 31B, 31C, and either 32A or 32C; three courses from Physics 8A*, 8B, 8C; 6A and lower division biology courses (see below).

The Major

Chemistry 133A, 133B, 133C, 110A, 156, 157AB, and 154; plus one course from each of the following five categories: 1) Bacteriology/Biology M132 (or Biology 134); 2) Bacteriology 101; 3) One Course from Biochem 137, 138, 141, 153, 154, 158, 162, 166, Bacteriology 111, or 113; 4) One upper division or graduate level course in Biology, Bacteriology, or Biological Chemistry; 5) One upper division or graduate level course in Biology, Bacteriology, Chemistry, Biological Chemistry, Mathematics, or Physics. Courses chosen to satisfy categories 4 and 5 must be approved by the Chemistry Undergraduate Adviser.

Recent changes in Biology course offerings will necessitate changes in the lower and upper division course requirements for the Biochemistry major. See the Chemistry Department Undergraduate Counselor.

GENERAL CHEMISTRY MAJOR

The major in General Chemistry is intended for students who wish to acquire considerable chemical background in preparation for careers outside chemistry. The requirements are accordingly quite flexible. It 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

Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23, 25; Mathematics 31A, 31B, 31C, and either 32A or 32C; three courses from Physics 6A*, 6B, 6C, 8A, 8B, 8C, 8D.

*If physics courses from both the 6 and 8 series are taken, undue duplication must be avoided.

The Major

Six upper division courses in chemistry, including at least one at the 100 level and at least two with laboratory work; six additional upper division courses. A 2.0 average is required in all upper division chemistry courses. The program should be coherent in terms of the student's interests and objectives, and must be based on a written proposal formally submitted and approved by the Chemistry Undergraduate Adviser.

Transfer Students

Transfer students with more than 84 quarter units will be accepted into the Chemistry Department majors only if they have completed the equivalent of Chemistry 11A, 11B, 11BL, 11C, 11CL, and Mathematics 31A-31B-31C. Recommended: Organic chemistry, one year of calculus-based physics.

An entering transfer student who has satisfactorily completed a year course in general college chemistry should enter the major. Transfer students should consult the Chemistry Undergraduate Office for assistance in planning their programs.

Graduate Study

The Department of Chemistry offers programs of study and research leading to the M.S. and Ph.D. degrees in chemistry and in biochemistry. Prospective candidates who have an interest in chemistry may specialize in the following fields: biochemistry, inorganic, organic, or physical chemistry. A number of Chemistry Department faculty also serve as advisers for interdepartmental graduate programs in Environmental Science and Engineering.

A 2.0 average is required in all upper division courses. The major in Biochemistry is intended for students preparing for careers in biochemistry or in other fields requiring extensive preparation in both chemistry and biology.

If physics courses from both the 6 and 8 series are taken, undue duplication must be avoided.

The Major


Graduate Lower Division Courses

1. Introductory Chemistry. Lecture and discussion, four hours; laboratory, four hours. This course is designed to meet part of the College of Letters and Science requirements for non-science majors and similar requirements in other colleges. The course deals with the concept of the submicroscopic arrangement of protons to proteins in subject matter. This course is not open to students who have received credit for Chemistry 11A.

2. Organic Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: High school chemistry or equivalent background and three years of high school mathematics. High school physics recommended. Students lacking the prerequisites are not recommended 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 that is normally given within 10 days before instruction begins. Enrollment is usually limited to students who have passed that examination. Students appearing for the examination must be prepared to identify themselves. This course as well as some of the succeeding first-year courses (111B, 111C, 111CL) are designed for all majors in chemistry and biochemistry and many other fields of science and technology. Emphasis is on rates of chemical change, equilibrium, and solutions; acids, bases, and salts; electronegativity in gases and solutions; solubility and solubility equilibria; oxidation and reduction.

Mr. Baur, Mr. McEwen, Mr. McNeil (F, W, S)

Mr. Trueblood (F, W, S)

11A. General Chemistry. Lecture, four hours; discussion one hour. Prerequisites: High school chemistry or equivalent background and three years of high school mathematics. High school physics recommended. Students lacking the prerequisites are not recommended 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 that is normally given within 10 days before instruction begins. Enrollment is usually limited to students who have passed that examination. An honors course parallel to course 11A.

11B. General Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course 11A with grade C- or higher or consent of instructor. Thermochmistry and thermodynamics; electrochemistry; chemical kinetics; quantum theory and electronic structure of the atom; surface and colloid properties. Mr. Heller, Mr. Kaesz, Mr. McTague (F, W, S, P)

11H. General Chemistry—Honors Sequence. Lecture, three hours; discussion, one hour. Prerequisite: course 11A with grade C- or higher or consent of instructor. Thermochmistry and thermodynamics; electrochemistry; chemical kinetics; quantum theory and electronic structure of the atom; surface and colloid properties. Mr. Heller, Mr. McTague (F, W, S, P)

11CL. General Chemistry Laboratory, (4 course) Laboratory, four hours. Prerequisites: course 11A with grade C- or higher, or consent of instructor. Course 11B must be completed or must already have been passed with a grade of C- or higher. Enrollment priority, if needed, will be given to those taking 11B concurrently. Use of the balance; volumetric technique; equilibrium; thermodynamics; and quantitative analysis using volumetric and titrimetric procedures; Beer's Law.

The Staff in Freshman Chemistry (F, W, S, P)

11C. General Chemistry, (4 course) Lecture, two hours; laboratory, two hours. Prerequisites: course 11B with grade C- or higher, or consent of instructor. An honors course parallel to course 11A.

Mr. Ebert, Mr. Kaesz, Mr. Zink (F, W, S, P)

11CH. General Chemistry—Honors Sequence. Lecture, two hours. Prerequisites: course 11B with grade C- or higher, or course 11B and consent of instructor. An honors course parallel to course 11C.

Mr. Farnsworth (F), Mr. Hardwick (F, S)

11L. General Chemistry Laboratory, (4 course) Laboratory, eight hours. Prerequisites: course 11B with grade C- or higher. Course 11C must be taken concurrently or must already have been passed with grade of C- or higher. Enrollment priority, if needed, will be given to those taking 11C concurrently.

Rates of reactions; quantitative volumetric analysis; qualitative inorganic analysis; inorganic synthesis; column chromatography; colorimetric analysis.

The Staff in Freshman Chemistry (F, W, S, P)

15. Organic and Biochemistry for Preclinical Study. Lecture and discussion, four hours. Prerequisite: course 11A with grade C- or higher. Recommended for students in certain areas of medicine and for those planning preclinical therapy and pre-dental hygiene curricula. An introduction to the structures and reactions of organic compounds, particularly with respect to their偶像的和 transformations in living systems. This course does not meet requirements for admission to medical or dental school, nor does it satisfy the requirements of any major in the College of Letters and Science other than certain areas of Kinesiology.

Mr. Hardwick (W)

15L. Chemistry Laboratory for Preclinical Study. (4 course) Laboratory, four hours. Prerequisite: course 15 must be taken concurrently or must already have been completed with grade C- or higher. An introduction to quantitative work with aqueous solutions and to the preparation, isolation, and characterization of organic compounds, particularly some of those important in living systems. Course 11L must be taken concurrently or must already have been completed with grade C- or higher. Mr. Cram, Mrs. Lamb, Mr. Stevens (F, W, S, P)

23. Organic Structure and Reactions. Lecture, four hours; discussion, one hour; laboratory, four hours. Prerequisites: courses 11C and 11CL (11CL may be taken concurrently) with grades of C- or higher, or consent of instructor. Structure, reactivity, and properties of organic compounds. The theory of functional groups, chemical bonds, molecular structure, and stereochemistry of organic compounds.

Mr. Cram, Mrs. Lamb, Mr. Stevens (F, W, S, P)
hours. Prerequisite: courses 11C, 21 with grades C- or higher, or consent of instructor. Organic structures and reactions of biochemical interest. The classes of compounds most important to biological functions: amino acids, carbohydrates, etc. sulfur, phosphorus chemistry. Methods of separation, purification and analysis of organic compounds: extraction, cryosorption, distillation, and chromatography.

Mr. Clarke, Ms. Lamb, Mr. Stevens

25. Elementary Biochemistry. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisite: course 23 with grade C- or higher, or consent of instructor. Protein structure and function; enzyme catalysis; intermediary metabolism; cell constituents; amino acids, synthesis, acids and proteins. Purification and characterization of biological macromolecules: spectrophotometry; catalysis; enzyme kinetics; gel filtration; and paper chromatography; viscosity; utilization of radioactive tracers.

96. Special Courses in Chemistry. (4 to 1 course)

To be arranged. Prerequisite: consent of the Chemistry Undergraduate Advisor.

The Staff (F,W,Sp)

Upper Division Courses

103. Environmental Chemistry. Lecture, four hours. Prerequisites: courses 21, 22, and 24 and consent of the instructor. Chemical aspects of air and water pollution. Energy resources and their use; environmental and pesticide effects. Chemical reactions in the environment, and the effect of chemical processes on the environment.

Mr. Bayes (Sp)

110A. Physical Chemistry: Chemical Thermodynamics. Lecture four hours; discussion, one hour. Prerequisites: courses 11C (or 138), Physics 88 or 6C (may be taken concurrently), Mathematics 31C or, for life science majors, Mathematics 3C. (An understanding of partial differentiation such that obtaining the partial derivative of a function of two variables is a very desirable.) Properties of gases; laws of thermodynamics; free energy; entropy; chemical potential and chemical equilibrium; thermodynamics of solutions.

Mr. McTague, Mr. Reiss, Mr. Trueblood (F,W,Sp)

110AG. Physical Chemistry: Chemical Thermodynamics. Lecture four hours; discussion, one hour. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 110B in this institution.

Mr. McTague, Mr. Scott (W,Sp)

110C. Physical Chemistry: Charges, Fields and Matter. Lecture and discussion, four hours. Prerequisite: course 110A. A selection of topics from: Electromagnetic fields in matter—susceptibilities, nuclear polarization and refraction, multipole, van der Waals forces, classical EM waves—propagation, refraction, scattering, absorption, optical rotation and rotary dispersion, Unusual effects; induction—multipole, black-body, Einstein coefficients, lasers; Scattering and diffusion—Rayleigh, Mie, Raman, X-ray, electron, neutron—by particles, molecules, lattices; resonance phenomena—light, EPR, NMR, NQR, Mosebauer; Electrolites—ion activity, conductivity, rate effects.

Mr. Heller, Mr. McMillan

113A. Physical Chemistry: Introduction to Quantum Chemistry. Lecture, four hours; discussion, one hour. Prerequisite: courses 11C, Physics 6C or 8C, Mathematics 32C. An introduction to the principles and applications of quantum chemistry; atomic structure and spectra; harmonic oscillator; rigid rotor; molecular spectra.

Mr. Heller, Mr. Kasper (F,Sp)

113B. Physical Chemistry: Introduction to Molecular Spectroscopy. Lecture, four hours; discussion, one hour. Prerequisites: 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; Raman, Ramo, microwave, ESR, NMR, laser spectroscopy and radiationless transitions.

Mr. Bayes, Mr. Kasper

113C. Physical Chemistry: Introduction to Quantum Chemistry. Lecture, four hours; discussion, one hour. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 113C at this institution.

Mr. Heller, Mr. Kasper (F,Sp)

114. Physical Chemistry Laboratory. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 11C, 113 and consent of the instructor. Lecture: techniques of physical measurement, error analysis and statistics, special topics. Laboratory: spectroscopy, thermodynamic measurements, and chemical dynamics.

Mr. Bayes, Mr. McTague (F,W,Sp)

115A-115B. Quantum Chemistry. Lecture, four hours. Prerequisites: course 113, Mathematics 32C. Recommended: Knowledge of differential equations equivalent to Mathematics 135A or Physics 113 and advanced algebra. Recommended: course 105A. Course 115A or Physics 115B is prerequisite for course 115B. Postulates and systematic development of nonrelativistic quantum mechanics; expansion theorems; wells; oscillators; angular momentum; hydrogen atom; matrix techniques; approximation methods; time dependent problems; atoms; spectroscopy; magnetic resonance; chemical bonding. Students entering course 115A will normally be expected to take course 115B the following quarter. These two courses are designed for chemistry students with a serious interest in quantum chemistry.

Mr. Baur (115A-W; 115B-Sp)

121. Special Topics in Physical Chemistry. Lecture, four hours. Prerequisite: course 110B (113 and Physics 88) or consent of instructor. Coverage of the course covers several topics that are of considerable research interest, and will be presented at a level suitable for students who have completed the junior year courses (110A and 110B) (Sp)

123A-123B. Classical and Statistical Thermodynamics. Prerequisite: course 110B. Rigorous presentation of the fundamentals of classical thermodynamics. Principles of statistical thermodynamics: probability, ensembles, partition functions, independent molecules and the perfect gas. Applications of classical and statistical thermodynamics selected from diatomic polyatomic gases, the solid and fluid states, phase equilibria, electric and magnetic effects, and other properties of chemical equilibrium, reaction rates, the imperfect gas, non-electrolyte and electrolyte solutions, surface phenomena, high polymers, gravity.

Mr. Gelbart, Mr. Knobler (F,W)

125. Computers in Chemistry. Lectures, three hours. Prerequisites: courses 110A, 110B, 113, and a working knowledge of FORTRAN IV or PL/1. Discussion of computer techniques, including matrix manipulation, solution of differential equations, and the implementation of these techniques in the applications to chemical problems in quantum mechanics, thermodynamics, and kinetics.

Mr. Kasper, Mr. Levine (F)

133A. Intermediate Organic Chemistry. Lecture and quiz, three hours; laboratory, four hours. Prerequisites: courses 21, 23, 25 (125 may be taken concurrently) with grades C or higher, or consent of instructor. Lecture: Structure, reactivity and spectroscopic properties of organic compounds. Laboratory: Methods of organic reaction synthesis, isolation, and characterization.

Mr. Jung, Mr. Murdock (F,W)

133AG. Intermediate Organic Chemistry. (4 course) Lecture and quiz, three hours. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 133A in this institution.

Mr. Jung, Mr. Murdock (F,W)

133B. Intermediate Organic Chemistry. Lecture and quiz, three hours; laboratory, four hours. Prerequisite: course 133A with grade C- or higher. Lecture: Reactions, mechanisms and synthesis in organic chemistry; common classes of compounds and reactions. Laboratory: Methods of organic reactions, synthesis, isolation, and characterization.

Mr. Jung, Mr. Murdock (W,Sp)

133BG. Intermediate Organic Chemistry. (4 course) Lecture and quiz, three hours. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 133B in this institution.

Mr. Jung, Mr. Murdock (W,Sp)

133C. Intermediate Organic Chemistry. Lecture and quiz, three hours; laboratory, four hours. Prerequisite: course 133B with grade C- or higher. Lecture: Reactions, mechanisms and synthesis in organic chemistry; common classes of compounds and reactions. Laboratory: Methods of organic reactions, synthesis, isolation, and characterization.

Mr. Jung, Mr. Murdock (F,Sp)

133CG. Intermediate Organic Chemistry. (4 course) Lecture and quiz, three hours. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 133C in this institution.

Mr. Jung, Mr. Murdock (F,Sp)

136. Organic Structural Methods. Lecture, two hours; laboratory, eight hours. Prerequisite: course 133A, 133B, 133C, or equivalent, with grades of C- or higher, or consent of instructor. A laboratory course in organic structure determination by chemical and spectroscopic methods: NMR, mass spectroscopy, etc.

Mr. Foote (F)

143A. Structure and Mechanism in Organic Chemistry. Lecture and discussion, three hours. Prerequisite: courses 133C (may be taken concurrently), 110B, 113, or equivalent, with grade of C- or better, or consent of instructor. An introduction to the structure and mechanism of organic reactions. Acidity and acid catalysis, linear free energy relationships; isotope effects. Molecular orbital theory; photochemistry; pericyclic reactions.

Mr. Chapman (G,Ch)

143B. Mechanism and Structure in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course 143A with grade C- or higher, or consent of instructor. Mechanisms of organic reactions, structure and detection of reactive intermediates.

Mr. Foote (W)

144. Laboratory Methods in Organic Synthesis. Lecture, two hours; laboratory, eight hours. Prerequisite: course 133C, or equivalent instruction including spectroscopic methods of organic chemistry, with grade of C- or better, or consent of instructor. Laboratory: Methods of synthetic organic chemistry including reactions under inert atmosphere, semimicro-scale reaction techniques, synthesis of natural products and molecules of therapeutic interest.

Mr. Chapman (G,Ch)

144G. Laboratory Methods in Organic Synthesis. (4 course) Lecture, two hours. Consists of the lecture portion only of course 144. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 144 in this institution and who do not wish to take the laboratory component of the course 144.

Mr. Chapman (Sp)

152. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 25. Survey of biochemistry. May not be used in the Chemistry or Biochemistry major.

Mr. Boyer (F)

154. Biochemical Methods. Lecture and quiz, two hours; laboratory, eight hours. Prerequisite: course

NOTE: For key to symbols, see page 74
190A-ZZ. Directed Individual Study or Research for Undergraduate Students. (1-2 courses) To be arranged with individual faculty members involved. Each faculty member has a unique letter designation, which is the same for the 199 and 599 series. Prerequisite: advanced junior standing and, in the case of the Chemistry Undergraduate Adviser, who should be consulted concerning the proposal outlining the study or research to be undertaken. The research should be submitted, and a satisfactory grade submitted to the Chemistry Undergraduate Adviser’s Office before the first day of the quarter. At the close of the quarter the student’s program of study or research and signed by the student and supervising faculty member must be submitted to the Chemistry Undergraduate Adviser, who should be consulted concerning the format of the report and deadlines for submission. A maximum of three 199 courses may be taken. Pass/Not Pass grades are used for this course. Approval of other than four units per quarter is allowed only under unusual circumstances.

The Staff (F,W,Sp)

Graduate Courses

207. Organometallic Chemistry. Lecture and discussion, three hours. Prerequisite: course 143 (may be taken concurrently). Enrollment limited to 12. Consent of instructor. Survey of synthesis, structure and reactivity emphasizing a mechanistic approach to organometallic reactions, spectroscopy of organometallic compounds, and the use of organometals in catalysis.

Mr. Hawthorne (F)

173. Structural Inorganic Chemistry. Lecture, three hours. Prerequisites: courses 113A, 110A (may be taken concurrently); 133B recommended. Introductory survey of structure and bonding in inorganic compounds: molecular stereochemistry; donor-acceptor interactions; compound formation of the transition metals; elements of crystal field and ligand field theory.

Mr. Hawthorne, Mr. Zink (F,Sp)

174. Inorganic and Metalorganic Laboratory Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 173, 133A, or consent of the instructor. Survey of inorganic compounds including air-sensitive materials; vacuum and high-pressure techniques; Schlenk technique; chromatographic and isotope exchange separations.

Mr. Hawthorne, Mr. Kaesz (W)

175. Inorganic Reaction Mechanisms. Lecture and quiz, three hours. Prerequisites: courses 110A, 110B and 113 or consent of the instructor. Survey of inorganic reactions: mechanistic principles; electronic structure of metal ions; transition-metal coordination chemistry, inner- and outer-sphere and chelate complexes; substitution, isomerization and elimination reactions; stereochemistry; oxidation mechanisms; radical, redox and photoreactions; and photochemical reactions of inorganic species.

Mr. Hawthorne (Sp)

176. Group Theory and Applications to Inorganic Chemistry. Lecture, three hours. Prerequisites: courses 110A, 110B. Group theoretical methods; molecular orbital theory; ligand field theory; electronic spectroscopy; vibrational spectroscopy.

(f)

184. Chemical Instrumentation. Lecture and quiz, two hours; laboratory, eight hours. Prerequisite: course 110A. Theory and practice of instrumental techniques of chemical and structural analysis including atomic absorption spectroscopy, gas chromatography, mass spectrometry, nuclear magnetic resonance (NMR), x-ray fluorescence and other modern methods.

Mr. Kasper, Mr. Strouse (F,Sp)

190A-190ZZ. Undergraduate Thesis Research. Prerequisite: two quarters of chemistry 199A-ZZ on related material and approval of the Undergraduate Adviser and Research Director. Open to members of an integrated one-year research project. Can consist of experimental and/or theoretical research or, in some cases, a comprehensive review of a given area. A thesis embodying the results of the year’s work to be submitted, and an oral presentation will be made. This course is suggested, but not required, for those seeking departmental honors at graduation.

The Staff (F,Sp)

196. Special Courses in Chemistry. (1-8 to 1 course) To be arranged. Prerequisite: consent of the Chemistry Undergraduate Adviser.

The Staff (F,Sp,Sp)
taken concurrently) or consent of instructor. Interactions of light with organic molecules, mechanistic and preparative photochemistry.

244. Strategy and Design in Organic Synthesis. Lecture and discussion, three hours. Prerequisite: course 143 (may be taken concurrently) or consent of instructor. The theory behind the planning of syntheses of complex molecules from simpler ones. Organic reactions and their use in the synthetic process, the reasoning and art involved in organic synthesis.

245. Applications of Electronic Theory in Organic Chemistry. Lecture and discussion, three hours. Prerequisite: course 143 (may be taken concurrently) or consent of instructor. A review of molecular theoretical developments, including negative theoretical methods; aromaticity and homoaromaticity; Huckel and M"obius conjugation; Woodward-Hoffmann theory of concerted pericyclic reactions; the estimation of through-bond and through-space interactions; an introduction to photoelectron spectroscopy; related special topics.

246. Bio-Organo Chemistry. Lecture and discussion, three hours. Prerequisite: course 143 (may be taken concurrently) or consent of instructor. Organic chemistry and molecular biology frameworks; synthetic models for enzymic complexation, catalysis and inhibition; models for transport; solid support chemistry; mechanisms for differential complexing.

247. Organic Colloquium. (½ course) Seminars in organic chemistry and related areas will be presented by outside speakers, department faculty, and postdoctoral and graduate students. Satisfactory/unsatisfactory grades are used for this course. May be repeated for credit.

The Staff in Organic Chemistry

248. Organic Chemistry Student Seminar. (½ course) Seminars are presented by staff, outside speakers, postdoctoral fellows and graduate students. Each seminar in organic chemistry is required to give a seminar on a timely and significant topic outside his immediate research specialty, ordinarily during the second year of graduate study. Satisfactory/unsatisfactory grades are used for this course. May be repeated for credit.

The Staff in Organic Chemistry

249. Problems in Advanced Organic Chemistry. (½ course) Problems in organic reaction mechanisms, synthesis, structure determination, stereoechemistry, spectroscopy, and chemical reactivity are discussed, with an emphasis on current literature. Intended primarily for first and second year graduate students as preparation for cumulative exams. Satisfactory/unsatisfactory grades are used for this course. May be repeated for credit.

The Staff in Organic Chemistry

251A-251Z. Advanced Topics in Biochemistry. (½ course) Lecture, two hours. Prerequisite: consent of the instructor. Each course will encompass a recognized specialty in biochemistry, and will be taught by a staff member whose research interests embrace that specialty.

The Staff in Biochemistry

252. Experimental Techniques in Cell Culture and Animal Virology. Lecture, two hours; laboratory, eight hours. Preparation and culture of cell cultures and bacteriophages are covered as a course in General Genetics, Chemistry 152 or equivalent and consent of the instructor. Experimental methods used in molecular biological and biochemical analysis of processes in higher eukaryotes with emphasis on animal cells: model systems for studying differentiation, development, chemical and virus induced malignant transformation; characterization of cell and viral nucleic acids; tumor protein synthesis and analysis.

M253. Macromolecular Structure. (1½ courses) (Same as Biological Chemistry M253) Lecture and quiz, four hours. Prerequisites: Chemistry 110A; Chemistry 157A-157B or Biological Chemistry 101A-101B or 201A-201B or equivalent. Chemical and physical properties of proteins, nucleic acids and other macromolecular complexes with emphasis on theory and methodology; correlation of structure and biological properties; chemical synthesis and properties of poly peptides and polynucleotides. The Staff in Biochemistry and Biological Chemistry (f)

254. Advanced Biochemical Methods. Lecture and quiz, two hours; laboratory, eight hours. Prerequisite: course 156, Chemistry 157A, Chemistry 157B (recommended), and physical chemistry consent of the instructor. Theoretical and practical basis of metabolic, chromatographic, kinetic, electrophoretic, ultracentrifugal, isotopic and other techniques as applied to biochemical systems.

M255. Protein Dynamics and Function. (Same as Biological Chemistry M255) Lecture and quiz, four hours. Prerequisites: Chemistry 110A; Chemistry 157A-157B or Biological Chemistry 101A-101B or 201A-201B or equivalent. Recommended: Chemistry-Biological Chemistry M253. Discussion of enzymes and enzymic catalysis, emphasizing mechanisms, actions of modifiers and transistors; structural aspects of gene function; bioenergetics. Mr. Dyer (Sp)

M257. Physical Chemistry of Biological Macromolecules. (½ course) (Same as Biological Chemistry M257) Lecture, two hours. Prerequisite: Chemistry 22 and Chemistry 110A. Theory of hydrodynamic, chemical, and topographic and x-ray techniques used to study the structure and function of biological macromolecules.

Mr. Schumaker (F)

257L. Hydrodynamic and Optical Characterization of Biopolymers. Lecture, two hours; laboratory, eight hours. Prerequisite: course M257 completed or concurrent. A laboratory course covering a variety of hydrodynamic and optical techniques, and including an individual project dealing with: sedimentation velocity equilibrium, buoyant density gradient centrifugation, capillary and rotating cylinder viscometry, circular dichroism, or intensity fluctuations of scattered laser light.

258. Biochemistry Student Seminar. (½ course) Seminars are presented by graduate students on topics of current biochemical interest. Satisfactory/unsatisfactory grades are used for this course. May be repeated for credit.

The Staff in Biochemistry (F,W,Sp)

259. Mechanisms in Regulation of Transcription. Lecture, four hours. Prerequisite: courses M253 and M257, or consent of instructors. Prokaryotic operons; initiation and termination; DNA regulatory sequences and regulator protein-DNA interactions; RNA polymerases; regulation of eukaryotic transcription; alternative splicing, differentiation; the cell cycle: role of chromatin structure in regulating transcription.

M261. Advanced Chemistry and Biochemistry of Lipids. (½ course) (Formerly numbered Biological Chemistry 261 and same as Biological Chemistry M261.) Lecture, two hours. Prerequisites: Chemistry 157A-157B or Biological Chemistry 101A-101B or 201A-201B or equivalent. Knowledge of elementary chemistry and biochemistry of lipids essential. The biochemical and physical characteristics of lipids and their metabolism.

Mr. Howton, Mr. Mead, Mr. Popjak

262. Biological Energy Transductions. Prerequisite: course M233. Molecular basis of energy transduction processes, including oxidative and photosynthetic phosphorylation, other energy-linked oxidative functions, membrane active transport, muscle contraction, and special sensory functions.

M263. Cellular Metabolism and Its Regulation. (Same as Biological Chemistry M263) Lecture, two hours. Prerequisites: Chemistry 156; Chemistry 157A-157B or Biological Chemistry 101A-101B or 201A-201B or equivalent.Recommended: Chemistry-Biological Chemistry M253. Analysis of regulatory controls involved in cellular energy and biosynthetic metabolism. Consideration of comparative aspects of metabolism in relation to physiological function.

Mr. Atkinson, Mr. West and the Staff in Biological Chemistry (W)

M264. Molecular Basis of Atherosclerosis. (½ course) (Same as Biological Chemistry M264 and Microbiology M264) Lecture, two hours. Prerequisite: course M261 or equivalent with consent of instructor. The course will cover the biochemistry of lipoprotein metabolism and lipid transport. Emphasis will be placed on the chemistry of lipoproteins and the role of plasma lipoproteins on the regulation of tissue lipid metabolism and the development of atherosclerosis.

The Staff

265. Seminar in Techniques for the Study of Gene Expression. (½ course) Prerequisite: consent of instructor. A seminar to discuss specific experimental approaches being taken in the study of gene regulation. Emphasis will be on the specific biochemical techniques being used to study regulatory protein-DNA interactions in diverse biological model systems.

M267. Macromolecular Metabolism and Subcellular Organization. (½ courses) (Same as Biological Chemistry M267) Lecture, two hours. Prerequisite: course M257 or consent of instructor. Each course will encompass a recognized specialty in inorganic chemistry, and will be taught by a staff member whose research interests embrace that specialty.

Mr. Zubin

268. Biochemistry Research Seminar. (½ course) Seminars are presented by staff, outside speakers, postdoctoral fellows and graduate students on topics of current biochemical interest. Satisfactory/unsatisfactory grades are used for this course. May be repeated for credit.

The Staff in Biochemistry (F,W,Sp)

M269. Developmental Biochemistry. (½ course) Prerequisite: course M257 or consent of instructor. Each 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 hormonal action, morphogenesis and information storage. Emphasis will be placed on the understanding of differentiating in vivo systems and cell culture models.

271A-271Z. Advanced Topics in Inorganic Chemistry. (1 to 5 courses) Lecture, two to five hours. Prerequisite: Chemistry 157A-157B or Biological Chemistry M267 or consent of instructor. Each course will encompass a recognized specialty in inorganic chemistry, and will be taught by a staff member whose research interests embrace that specialty.

The Staff in Inorganic Chemistry

273. Nuclear Chemistry. Lecture and quiz, four hours. Prerequisite: consent of the instructor. Radioactivity; nuclear reactions; interactions of nuclear radiation with matter; nuclear detection methods, preparation, isolation and identification of nuclear products; chemical applications; nuclear transformations; isotope effects; applications of isotopes in chemistry.

276. Physical Methods for the Characterization of Inorganic Compounds. Lecture, three hours. Prerequisite: course 174 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. Strouse (W)

278. Inorganic Chemistry Student Seminar. (½ course) Seminars are presented by staff, outside speakers, postdoctoral fellows and graduate students. Each student doing research in inorganic chemistry is required to give a seminar on a timely and significant topic outside his immediate research specialty, ordinarily during the second
year of graduate study. Satisfactory/unsatisfactory grades are used for this course. May be repeated for credit.

(For W,S)

Individual Study and Research
596A-596ZZ. Directed Individual Study or Research. (To 4 courses) To be arranged with the member of the faculty who will direct the study or research. The member of the faculty directing the study or research will be identified by the same two-letter code used to identify his 599 research course. Prerequisite: consent of the Chemistry Graduate Adviser. Courses of directed individual study, but not research courses, may be used to fulfill the departmental requirement for the Master's degree of three courses selected from courses 115A, 115B, 123A, 123B, 143, or any graduate level course. Graded on a satisfactory/unsatisfactory basis. The Staff (For W,S)

Courses in Related Fields
597. Preparation for the Doctoral Qualifying Examination or the Master's Comprehensive Examination. (To 2 courses) Prerequisite: consent of the Chemistry Graduate Adviser. Graded on a satisfactory/unsatisfactory basis.

The Chemistry Graduate Adviser (For W,S)

598A-598ZZ. Research and Preparation of the Master's Thesis. Each member of the faculty supervises research of master's students and holds research group meetings, seminars, and discussions with the students that take his master's research. Each student is identified by the same two-letter code used to identify his 599 research course. Research courses in the 596A-ZZ, 598A-ZZ, and 599A-ZZ series may be used to fulfill not more than six of the nine quarter courses required for the M.S. degree. The Staff (For W,S)

599A-599ZZ. Research and Preparation for the Doctoral Dissertation. (To 4 courses) Each member of the faculty supervises research of doctoral students and holds research group meetings, seminars, and discussions with the students that take his own doctoral research course identified by a two letter code as follows:


F(W,S)

Many courses of interest to Chemistry and Biochemistry majors are listed under Physis, Biology, and Bacteriology. Outside the College of Letters and Science, upper division examinations are directed to Engineering 238D, Atomic and Molecular Collisions and Engineering 232D, Molecular Dynamics.

CLASSICS

(Department Office, 7349 Bunche Hall)

Philip Levine, Ph.D., Professor of Classics.
Bengt T. Moxness, Ph.D., Professor of Medieval Latin.
Jaevel M. B. Jordan, Ph.D., Professor of Classics and Indo-European Studies.

Milton Van Amstot, Ph.D., Emeritus Professor of Byzantine Greek and History.
Paul A. Clement, Ph.D., Emeritus Professor of Classics and Classical Archeology.

Herbert B. Hoffleit, Ph.D., Emeritus Professor of Classics. Alberth H. Travis, Ph.D., Emeritus Professor of Classics. Steven Lattimore, Ph.D., Associate Professor of Classics and Classical Archeology.

Andrew Dyck, Ph.D., Assistant Professor of Classics. Bernard Fischler, Ph.D., Assistant Professor of Classics. Michael W. Harland, Ph.D., Assistant Professor of Classics.

Katharine King, Ph.D., Assistant Professor of Classics.

Assistant Professor.

Assistant Professor.

Helen F. Caldwell, M.A., Senior Lecturer in Classics, Retired.
Barbara E. Killian, M.A., Lecturer in Classics.
Evelyn V. Mohr, M.A., Lecturer in Classics.

Major Fields in the Department

The student may take the major in Greek, in Latin, or in the Classics (i.e., Greek and Latin). Students considering a major in the Department should consult the adviser as soon as possible in their undergraduate career, but in no case later than the point at which they are about to take upper division courses.

Preparation for the Major

Required: Greek 1, 2, 3 and Latin 1, 2, 3, or the equivalent.

The Major

Greek: Required: (1) nine upper division courses in Greek, including Greek 110; (2) one upper division course outside Greek; (3) Classics 142 or equivalent. (4) two courses in Greek or Roman history (History 112A-112B, 113A-113B, 111B, 111C); (5) two additional courses in one or two of the related areas, classical archaeology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A-166B), ancient philosophy (Philosophy 101, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics 170TA-170TB), medieval Latin literature (Latin 131, 133). Total required: 16 courses.

Latin: Required: (1) nine upper division courses in Latin, including Latin 110; (2) one upper division course in Greek; (3) Classics 143 and either Classics 141 or 142; (4) two courses in Greek or Roman history (History 112A-112B, 113A-113B, 111B, 111C); (5) two additional courses in one or two of the related areas, classical archaeology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A-166B), ancient philosophy (Philosophy 101, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics 170TA-170TB), medieval Latin literature (Latin 131, 133). Total required: 16 courses.

The Major

Classics. and Greek, Latin: Required: (1) twelve upper division courses, six in Greek and six in Latin, including Greek 100 and Latin 110; (2) one of Classics 141, 142, 143, (3) one course in Greek or Roman history (History 112A-112B, 113A-113B, 111B, 111C); (4) one additional course in two of the related areas, classical archaeology (Classics 151A-151B-151C), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A-166B), advanced philosophy (Philosophy 101, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics 170TA-170TB), medieval Latin literature (Latin 131, 133). Total required: 16 courses.

The Major

Requirements for the Secondary Teaching Credential in Latin

Students preparing for this credential are required to take Latin 110 and Latin 370. Latin 370 may not be counted as part of the minimum course requirements for the M.A. degree.

Requirements for the Master's Degree in Classics

General University Requirements: The Department follows the comprehensive examination plan of the General University and Foreign Language Requirements.

Foreign Language: During the first year of study, the student must pass the standard ETS reading examination in French or German or the UCLA departmental examination in Italian. This examination is offered periodically during the academic year, at publicly announced times and places. Completion of FRENCH 5, GERMAN 5, or ITALIAN 5 at this University with a minimum grade of C, or the equivalent, is acceptable in lieu of such examination.

Program of Study: Nine courses, including Greek 210 and Latin 210, at least one course from Greek 200A-200B-200C and one from Latin 200A-200B-200C, and one further 200-series course in each language (chosen from 201-229). The remaining three courses are selected in consultation with the Graduate Adviser from the upper division and graduate offerings of the department, or exceptionally from other departments or programs in related fields such as archaeology, Indo-European studies, linguistics, ancient history, and ancient philosophy. In addition, the student must complete the Reading Lists in Greek and Latin authors established for the M.A. degree in Classics.

Comprehensive Examinations: Three written two-hour examinations: (1) sight translation from Greek and Latin, (2) translation of passages from works on the Reading Lists, and (3) the history of Greek and Latin literature.

Requirements for The Master's Degree in Greek or in Latin

The General University and Foreign Language requirements are identical with those for the M.A. in Classics.

Program of Study: Seven upper division or graduate courses in Greek (Latin), including Greek (Latin) 210, at least two courses from Greek (Latin) 200A-200B-200C, and one further 200-series course in Greek (Latin) literature (chosen from 201-229). Two further upper division or graduate courses are
chosen in consultation with the Graduate Adviser. Total: 9 courses.

**Comprehensive Examinations.** Three written two-hour examinations in (1) sight translation of Greek (Latin), (2) translation of Greek (Latin) passages from the Greek (Latin) part of the Reading Lists for the Master's degree in Classics, and (3) the history of Greek (Latin) literature.

**Requirements for the Doctor's Degree**

Admission to the Doctoral Program: Prerequisite for admission is an M.A. degree in Classics (Greek and Latin), in Greek, or in Latin, with distinction from this University, or its equivalent. In cases of doubtful equivalency the Department may allow provisional admission and require the candidate to pass with distinction during the first year of residence a set of tests identical with the M.A. comprehensive examination.

**General Requirements**

**Foreign Language Examination.** French or German, in addition to and in the same manner as the language studies for the M.A. degree (see above). With permission, Italian may be substituted for French. If Italian was the language studied at the M.A. level, German must be taken.

Program of Study. At least one year of full-time graduate study (normally 8-9 courses) is required in preparation for the qualifying examinations. The student may elect to specialize in Classical Literature and Philology or in one of the following areas: Classical Linguistics, Ancient History, Ancient Philosophy, Classical Archaeology, Patristic and Byzantine Studies, Medieval Latin Studies. Students entering with an M.A. degree in Classics (Greek and Latin) may continue on their specialization, stressing either Greek or Latin as their research interests indicate. Those without M.A. competence in both Greek and Latin are required to take additional course work in their minor language (including one course each in 200A-200B, 200C, and one course from 201-229). All students must complete the Doctoral Reading List in either Greek or Latin which is additional to the M.A. list and differs somewhat depending on area specialization; those without M.A. competence in one language must complete the M.A. reading list in that language.

Qualifying Examinations for Advancement to Doctoral Candidacy and Conferral of the C.Phil. Degree: Three written three-hour examinations, supervised by the student's departmental guidance committee, in translation and interpretation of (1) Greek and (2) Latin texts, partly from the Reading Lists and partly selected from the area of specialization. The oral examination, conducted by the Doctoral Committee, covers both the area of specialization and the general field of Classical studies.

**Dissertation.** A dissertation must be submitted, on a subject approved by the candidate's doctoral committee and normally relating to his Special Field. The dissertation must be the result of original work and be the author's own creation.

**Final Examination.** This oral examination, administered by the doctoral committee, covers primarily the dissertation and its relation to the field in which the subject lies.

**Courses Which Do Not Require a Knowledge of Greek or Latin**


Exchange and resource-sharing programs make it possible for UCLA students to take Classes and Classics-related courses in other departments in Southern California area, e.g., UCSD, USI, USC. The Classics departments at these schools should be consulted for specific details.

**Classics**

**Lower Division Course**

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. Readings in the Greek authors are suggested, but not required. A knowledge of Latin is not required.

Mr. Lattimore

20. Survey of Roman Civilization. A survey of the 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. A knowledge of Latin is not required.

Mr. Frischer

M70. Survey of Mediaeval Greek Culture. (Formerly numbered 145A. Same as History M70.) Classical roots and mediæval manifestation of Byzantine civilization; political theory, Roman law, pagan critique of Christianity, literature, theology, and contribution to the Renaissance (including the discovery of America).

Mr. Dyck

**Upper Division Courses**

141. A Survey of Greek Literature in English. A study of classical Greek literature, exclusive of the drama, with readings in English.

Mr. Dyck, Mr. Frischer


Mr. Dyck, Mr. Haslam


Mr. Dyck

151A. Classical Archaeology: Graeco-Roman Architecture. A general introduction to the study of Aegean, Greek, and Roman architecture.

Mr. Lattimore

151B. Classical Archaeology: Graeco-Roman Sculpture. A general introduction to the study of Aegean, Greek, and Roman sculpture.

Mr. Lattimore

151C. Classical Archaeology: Graeco-Roman Painting. A general introduction to the study of Graeco-Roman art. Lecture.

Mr. Lattimore

151D. Classical Archaeology: The Aegean Bronze Age. The course is a survey of the prehistoric art and archaeology of the Greek lands. A knowledge of Greek is not required.

The Staff

161. Introduction to Classical Mythology. The origins of classical myth; the substance of divine myth and heroic saga; the basis of mystic religion; a survey of the study of classical mythology.

Mr. Lattimore, Mr. Puvel

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 literature.

Mr. Lattimore

166A. Greek Religion. A study of the religion of the ancient Greeks.

Mr. Dyck

166B. Roman Religion. A study of the religion of the ancient Romans.

Mr. Puvel

168. Introduction to Comparative Mythology. Prerequisite: course 161 or consent of the instructor. The religious, mythological, and historical traditions of Greece and Rome compared with each other and with those of other ancient Near Eastern and European societies.

Mr. Puvel

M170A. Byzantine Civilization. (Same as History M122A.) Emphasis is laid on Byzantine Theology.

Mr. Dyck

M170B. Byzantine Civilization. (Formerly numbered 145C.) (Same as History M122B.) Literature, relations with Rome, and the Renaissance.

Mr. Dyck


Mr. Puvel

199. Special studies in Classics. (9 to 2 courses) Prerequisite: senior standing and consent of the instructor.

**Graduate Courses**

200. History of Classical Scholarship. Mr. Dyck

230A-230B. Language in Ancient Asia Minor. Prerequisite: consent of the instructor. Survey of the language situation in Anatolia in the second and first millennia B.C. Readings in Mitite, Palu, Luvian, Hieroglyphic Lycian, and Lydian texts. Anatolian-Greek relationships and survivals in Classical and Hellenistic times.

Mr. Puvel

240. Etruscan. Prerequisite: consent of the instructor. A survey of scholarly research on Etruscan language and culture, with analysis of epigraphic material.

Mr. Puvel

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. The Staff

251B. Seminar in Classical Archaeology. Graeco-Roman architecture. The Staff

251C. Seminar in Classical Archaeology. Graeco-Roman literature. 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. Seminar in Roman Religion. Prerequisite: consent of the instructor.

The Staff

268. Seminar in Comparative Mythology. Prerequisite: course 168 and consent of the instructor. Advanced study of selected topics in comparing Greek and Roman traditions with other ancient Near Eastern and European societies. Mr. Puvel

271. Computer Techniques in Classical Studies. Survey of computer techniques in the study of the ancient world with emphasis on Greek and Latin literary texts. Students will learn enough computer programming to work on a project of their own during the course.

The Staff

287. Graduate Colloquium in Classical Literature. Reading, research and discussion of selected topics from Greek and Roman literature. May be repeated for credit.

The Staff

**Individual Study and Research**

596. Directed Individual Study or Research. (6 to 2 courses) The Staff

597. Study for the M.A. Comprehensive Examination or the Ph.D. Qualifying Examination. (6 to 2 courses) The Staff

599. Research for the Doctoral Dissertation. (9 to 2 courses) The Staff

**Greek**

**Lower Division Courses**

1. Elementary Greek. Lecture, five hours per week.

The Staff

2. Elementary Greek. Lecture, five hours per week. Prerequisite: course 1.

The Staff

NOTE: For key to symbols, see page 74
3. Elementary Greek. Lecture, five hours per week. Prerequisite: course 2.

The Staff

10. Elementary Modern Greek. An introduction designed to teach the student to pronounce correctly, understand, speak, and write with some facility the language of everyday life. Comparisons with Ancient Greek are made. Not intended for native or near-native speakers of Modern Greek. 

The Staff

11. Intermediate Modern Greek. Prerequisite: course 10 or consent of the instructor. Drill in pronunciation and grammatical patterns. Building-up of vocabulary. Easy readings in literature. 

The Staff


40. The Greek Element in English. A knowledge of Greek is not required. 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. 

Mrs. Killian, Mrs. Mohr

Upper Division Courses

Note: Greek 3 is prerequisite to 100. Greek 100 is prerequisite to 101-107 and 111-124, and prerequisite or corequisite to 110.

100. Readings in Greek Prose. Prerequisite: course 3. Plato’s Apology or a text of comparable difficulty is read. 

The Staff

101A. Homer: Odyssey. Ms. King, Mrs. Mohr, Mr. Puvelb

101B. Homer: Iliad. Ms. King, Mrs. Mohr, Mr. Puvelb

102. Lyric Poets. Selections from Archilochus to Bacchylides. Mr. Haslam, Mrs. Mohr

103. Aeschylus. Mr. Haslam

104. Sophocles. Mr. Haslam, Mr. Lattimore

105. Euripides. Mr. Frischer, Mr. Haslam, Ms. King

106. Aristophanes. The Staff

107. Theocritus. Mr. Frischer, Mr. Lattimore

110. The Study of Greek Prose. Work in sight reading and grammatical analysis of Attic prose texts; writing the Attic prose. 

Mr. Haslam

111. Herodotus. Mr. Lattimore

112. Thucydides. Mr. Haslam, Mr. Lattimore

113. Attic Orators. Mr. Dyck, Mr. Haslam

121. Plato. Mr. Frischer, Ms. King

122. Plato: Republic. Mr. Haslam

123. Aristotle: Poetics and Rhetoric. Mr. Haslam

124. Aristotle: Ethics. Mr. Dyck, Mr. Frischer


Mr. Haslam

131. Readings in Later Greek. Prerequisite: course 100. Topics treated will vary from year to year; they will include: “Longinus”; On the Sublime; Marcus Aurelius; “Arrian; the Second Sophistic; Plutarch; later epic; epigram; epistolographi Graeci. 

Mr. Dyck

132. Survey of Byzantine Literature. Prerequisite: course 100. Readings will be based on (1) Anthology of Byzantine Prose, ed. Nigel Wilson; (2) Oxford Book of Medieval and Modern Greek Verse, ed. C.A. Trappan, or, if this is unavailable, Poeti bizantini, ed. R. Cantarella. In addition, necessary historical and cultural background will be provided by readings and lectures. Concurrent scheduling with Greek 231A. 

Mr. Dyck

133. Readings in Byzantine Literature. Prerequisite: course 132. Topics to be treated will vary from year to year; they will include: Procopius. Agathias, Michael Psellos, the Alexiad of Anna Comnena, and Digenis Akritas. 

Mr. Dyck

150. Readings in Modern Greek. Prerequisites: course 3 or course 12 or consent of the instructor. Study of Modern Greek literature and its development since the Middle Ages through analysis of texts in the original. 

The Staff

151. Advanced Readings in Modern Greek. Prerequisites: course 150 or consent of the instructor. 

The Staff

160. Greek Drama: Study and Performance. (2 courses) Prerequisite: consent of the instructor. Intensive critical study of a dramatic work in Greek, culminating in its performance in the original language and manner of presentation. May be repeated for credit whenever a different play is studied and performed. 

Mrs. Mohr

199. Special Studies in Greek. (4 to 2 courses) Prerequisite: senior standing and consent of the instructor. 

The Staff

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 the instructor. Lectures on the history of Greek literature, supplemented on the part of the student by the independent reading of Greek texts in the original. 

Mr. Haslam, Ms. King

201A-201B. Homer: The Iliad. Mr. Haslam, Ms. King

202A-202B. Homer: The Odyssey and the Epic Cycle. Mr. Haslam, Ms. King

203. Hesiod. Mr. Frischer

204. Homeric Hymns. The Staff

205. Seminar in Aeschylus. Mr. Haslam

206A-206B. Sophocles. 

Mr. Haslam, Mr. Lattimore

207A-207B. Euripides. Mr. Frischer, Mr. Haslam, Ms. King

208A-208B. Aristophanes. The Staff

209. Seminar in Hellenistic Poetry. Mr. Frischer

210. Advanced Greek Prose Composition. Prerequisite: course 110 or the equivalent. 

Mr. Haslam

211A-211B. Herodotus. The Staff

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

213. Seminar in Greek Historiography. The Staff

214. Demosthenes. Mr. Dyck


216. Menander. Prerequisite: a reading knowledge of Classical Greek is required. Mr. Frischer

217. Pindar. Prerequisite: consent of instructor. A detailed study of Pindaric texts, with attention to Pindar’s place in the development of Greek choral lyric in addition to his characteristics as a thinker and artist. 

Mr. Haslam

221. Seminar in the Presocratic Philosophers. Mr. Frischer

222A-222B. Plato. The Staff

223A-223B. Aristotle. Mr. Dyck, Mr. Frischer

224. Seminar in Post-Aristotelian Philosophy. Mr. Frischer

230. New Testament Greek. The Greek New Testament, as a work of Greek literature, with special emphasis on the information it gives about the culture on the whole, and the language in particular, of the society for which it was produced. 

The Staff

231A-231B-231C. Seminar in Later Greek and Byzantine Literature. Prerequisite: consent of the instructor. Studies in various aspects of Byzantine Greek language and literature; subject treated varies from year to year; course need not be taken in A-B-C sequence and may be repeated for credit with contents changed. Mr. Dyck


Mr. Dyck

240A-240B. History of the Greek Language. Prerequisite: consent of the instructor. 240A covers the linguistic history of Classical Greek. In 240B Post-Classical, Mediaeval, and Modern Greek are discussed. 

Mr. Dyck


Mr. Dyck

242. Greek Dialects and Historical Grammar. Prerequisite: consent of the 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. Puvelb

243. Mycenaean Greek. Prerequisite: consent of the instructor. Script, language, and grammar of the Linear B inscriptions; their relevance to Ancient Greek linguistic and cultural history. Mr. Puvelb

245. Greek Palaeography. Studies in the development of the book hand in Greek manuscripts earlier than the invention of printing. 

The Staff

Individual Study and Research

596. Directed Individual Study or Research. (4 to 2 courses) 

The Staff

597. Study for the M.A. Comprehensive Examination or the Ph.D. Qualifying Examination. (4 to 2 courses) 

The Staff

599. Research for the Doctoral Dissertation. (4 to 2 courses) 

The Staff

Latin

Lower Division Courses

1. Elementary Latin. Lecture, five hours per week. 

The Staff

1G. Elementary Latin for Graduate Students. (No Credit) Offered concurrently with Latin 14, being identical in scheduling and content. 

Mrs. Killian

2. Elementary Latin. Lecture, five hours per week. Prerequisite: course 1. 

The Staff

2G. Intermediate Latin (Intensive). (No Credit) Prerequisite: Latin 14 or Latin 2 with grade B or better, or consent of instructor. Review of grammar; reading of selected portions of Latin prose ranging from Classical to Medieval, with emphasis on historical texts. 

The Staff

3. Elementary Latin. Lecture, five hours per week. Prerequisite: course 2. 

The Staff

14. Elementary Latin (Intensive). (2 courses) The intensive course in Latin will cover all the declensions of nouns and adjectives, all conjugations in the indicative mood and the primary uses of the subjunctive mood. Emphasis will be given to the development of the ability to read easy selections of classical prose. 

Mrs. Killian

15. Intermediate Latin (Intensive). (2 courses) Prerequisites: Latin 14 or Latin 2 with grade B or better, or consent of instructor. Review of grammar; reading of selected portions of Latin prose ranging from Classical to Medieval, with emphasis on historical texts. 

Mrs. Killian

40. The Latin Element in English. A knowledge of Latin is not required. A study of the derivation and usage of English words of Latin origin; analysis into their component elements directed toward understanding of form and meaning. 

Mrs. Killian, Mrs. Mohr
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.

101. Plautus. Mr. Löstedt, Mrs. Mohr
102. Terence. Mr. Löstedt
103. Lucilius. Mr. Frischer
104. Ovid. Mrs. Killian, Mrs. Mohr
105A. Vergil: Selections from Aeneid I-VI. Mr. King, Mr. Levine, Mrs. Mohr
105B. Vergil: Advanced Course. Mr. King, Mrs. Mohr
106. Catullus. Mr. Levine
107. Horace: Odes and Epodes. Mr. Levine
108. Roman Elegy. Selections from Catullus, Tibullus, and Propertius. Mr. Frischer, Mr. Levine
109. Roman Satire. Selections from the Epistles of Horace, the Satires of Juvenal, and the Epigrams of Martial. Mrs. Killian, Mr. Levine
110. The Study of Latin Prose. Work in sight reading and grammatical analysis of classical prose texts; writing of classical prose. Mr. Dyck
111. Livy. Mrs. Mohr
112. Tacitus. Mr. Frischer
113. Cicero: The Orations. Mr. Dyck, Mr. Frischer, Mrs. Mohr
114. Roman Epistolography: Cicero and Pliny. Mr. Dyck, Mr. Frischer
115. Caesar. Mr. Dyck, Mr. Frischer, Mrs. Mohr
116. Petronius. Mr. Frischer, Mr. Löstedt, Mrs. Mohr
117. Sallust. Mrs. Killian
118. Seneca. A selection of Seneca’s works will be read in Latin, supplemented by further readings in translation. Mr. Löstedt
130. Introduction to Mediaeval Latin. Prerequisite: course 3, or course 15, or consent of the instructor. Reading of easy prose texts, with interest centered on basic language training. Mr. Löstedt
131. Mediaeval Latin Prose. Prerequisite: course 130 or consent of the instructor. Extensive reading of selected texts in prose; interest is centered on the idiosyncrasies of Mediaeval Latin. Mr. Dyck
133. Mediaeval Latin Poetry. Prerequisite: one upper division language course in Latin or consent of the instructor. Emphasis varies from year to year between Christian and secular poetry. Mr. Löstedt
150. Roman Drama: Study and Performance. (2 courses) Prerequisite: consent of the instructor. Intensive critical study of a dramatical work in Latin, culminating in its performance in the original language and manner of presentation. May be repeated for credit whenever a different play is studied and performed. Mrs. Mohr
199. Special Studies in Latin. (½ to 2 courses) Prerequisite: senior standing and consent of the instructor. The Staff

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 the instructor. Lectures on the history of Latin literature, supplemented on the part of the student by the independent reading of Latin texts in the original. Mr. Frischer, Mr. Levine
201. Seminar in the Roman Epic: Ennius to Silius Italicus. The fragments of Ennius and selected readings from the minor epic poets (Lucan, Valerius Flaccus, Statius, Silius Italicus). The Staff

202. Seminar in Catullus. A detailed consideration of the entire Catullan corpus. Mr. Levine
203A. Elegiac Poetry. Mr. Frischer, Mr. Levine
203B. Propertius. Mr. Levine
204A-204B. Vergil’s Aeneid. Mr. Haslam, Ms. King
205. Seminar in Vergil’s Bucolics. Mr. Frischer
206. Horace. Mr. Frischer
207. Roman Comedy. Prerequisite: consent of the instructor. Survey of the history of Roman Comedy. Reading of one comedy by Plautus or Terence with interest centered on language and meter. Mr. Löstedt
208. Ovid. Prerequisite: a reading knowledge of Classical Latin is required. A detailed study of the poetic works of Ovid: readings in the original with discussion of the secondary literature and scholarship. The course may be repeated for credit as the content varies. The Staff
210. Advanced Latin Prose Composition. Prerequisite: course 110 or the equivalent. Mr. Levine
211A-211B-211C. Seminar in the Roman Historians. A study of considerable portions of the writings of:
211A. Sallust. The Staff
211B. Livy. Mr. Frischer
211C. Tacitus. Mr. Frischer
220A. Cicero’s Rhetorical Works. Mr. Dyck
220B. Cicero’s Orations. Mr. Dyck
221A. Cicero’s Philosophical Works. Mr. Dyck, Mr. Levine
221B. Cicero: De Natura Deorum. Mr. Dyck, Mr. Frischer, Mr. Levine
222. Seminar in Roman Stoicism. Prerequisite: a reading knowledge of Greek and Latin. Mr. Dyck, Mr. Frischer
223. Lucretius. Mr. Frischer
225. Lucan. A detailed study of Lucan, Bellum Civilis: readings in the original, discussion and reports on important literary and historical aspects. The Staff
231A-231B. Seminar in Mediaeval Latin. Prerequisite: at least one upper division course in Latin or consent of the instructor. Studies in various areas of the language and literature of Mediaeval Latin. With instructor’s permission, may be repeated for credit. Mr. Löstedt
232. Vulgar Latin. Prerequisite: consent of the instructor. History and characteristics of popular Latin; its development into the early forms of the Romance languages. Mr. Löstedt
240. History of the Latin Language. Prerequisite: consent of the instructor. The development of Latin from the earliest monuments until its emergence in the Romance languages. Mr. Löstedt
242. Italic Dialects and Latin Historical Grammar. Prerequisite: consent of the instructor. The linguistic situation in early Italy. Readings in the context of Italic and Indo-European linguistics. Mr. Pohvel
243. Seminar in Latin Palaeography. Studies in the development of the book hand in Latin manuscripts earlier than the invention of printing. Mr. Levine

Professional Courses in Method

370. The Teaching of Latin. Prerequisite: graduate standing or consent of the instructor. Techniques for teaching; organization of courses; review of the content of the curriculum offered in junior and senior high schools. Mrs. Killian

495. College Teaching of Latin. (½ course) Prerequisite: current service as a teaching assistant and consent of the instructor. Methodology of instruction, in conjunction with classroom practice. Mrs. Killian

Individual Study and Research

596. Directed Individual Study or Research. (½ to 2 courses) The Staff
597. Study for the M.A. Comprehensive Examination. By the Ph.D. Qualifying Examination. (½ to 2 courses) The Staff
599. Research for the Doctoral Dissertation. (½ to 2 courses) The Staff

Related Courses in Other Departments

Art 103A. Greek Art.
103B. Hellenistic Art.
103C. Roman Art.
222A-222B. Greco-Roman Art.
History 111A-111B-111C. History of the Ancient Mediterranean World.
112A-112B. History of Ancient Greece.
113A-113B. History of Rome.
121. The Early Middle Ages.
121B. The Later Middle Ages.
123A-123B-123C. Byzantine History.
250A-250B. Seminar in Ancient History.

Indo-European Studies M132. European Archaeology: The Bronze Age.
140. Introduction to Indo-European Mythology.
M150. Introduction to Indo-European Linguistics.

Philosophy 101A. Plato — Earlier Dialogues.
101B. Plato — Earlier Dialogues.
102. Aristotle

COMMUNICATION STUDIES (INTERDEPARTMENTAL)

Donald E. Hagins, Ph.D., Professor of Communication Studies.
Paul L. Rosenholtz, Ph.D., Associate Professor of Communication Studies.
Patrick French, Ph.D., Assistant Professor of Communication Studies and Psychology.

● L. Geoffrey Cowan, LL.B., Lecturer in Communication Studies.
Janet Weathers, Ph.D., Lecturer in Communication Studies.

UNDERGRADUATE CURRICULUM

The major in Communication Studies seeks to provide the student with a comprehensive knowledge of the nature of human communication, the symbolic systems by which it functions, the environments in which it occurs, its media, and its effects. The major draws its resources from the social sciences, humanities, and fine arts. The specialization in Mass Communication centers upon formal and institutional communication systems and the social contexts in which they function. The specialization in Interpersonal Communication centers upon face-to-face communicative interaction in the small
group environment. Students selecting the major 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 at Royce Hall 232.

For purposes of Breadth Requirements, the Communication Studies major is classified within the Social Sciences Division.

Preparation for the Major. Communication Studies 14, Anthropology 10, Sociology 1. Linguistics 2 is required for students who elect to specialize in Interpersonal Communications.

The Major. Required core courses: Communication Studies 100 and 101 and one course from Anthropology 146, Communication Studies 102 or Linguistics 100.


B. Studies in Interpersonal Communication. (1) Theory. Psychology 135 or Sociology 154, Psychology 137B or Sociology 150. (2) Methods. Three courses required: Communication Studies 120, Management 182, Philosophy 174, 175. (3) Heterogeneous Groups Communication. Three courses chosen from Anthropology 130, Communication Studies 130, Sociology 10, 124, 155. (4) Electives (Five Courses). Two courses chosen from Communication Studies 140, Communication Studies 147 or Sociology 122, Communication Studies 150, Communication Studies 152. Three courses chosen from one of the following three groups: (a) Language Theory. Communication Studies 142, 150, Linguistics 100, 170, Philosophy 172, Psychology 123. (b) Media and Media History. Journalism 192, Theatre Arts 106A, 108, 110A and either Communication Studies 175 or Theatre Arts 116. (c) Social Systematics. Anthropology 141, 144, 145A, 145B, 149A, Sociology 144A, 144B or either Anthropology 149 or Sociology 151.

Lower Division Course

10. Introduction to Communication Studies. An introduction to the fields of mass communication and interpersonal communication. Study of modes, media, and effects of mass communication, interpersonal processes, and communication theory. The Staff

Upper Division Courses

100. Communication Theory. Prerequisites: course 10, Linguistics 1, Sociology 1, Psychology 10 or consent of instructor. Analysis of the fundamental nature of human communication; its historical, linguistic, psychological and sociological bases. Study of theoretical models explicating the process and constituents of the communicative act. Ms. French

101. Freedom of Communication. Analysis of legal, political and philosophical issues entailed in the rights of free expression, access to an audience, and access to information. Study of court decisions governing freedom of communication in the United States. Mr. Cowan, Mr. Rosenthal

102. The Code of Human Communication. Prerequisites: course 10; Sociology 1; Psychology 10; Linguistics 1, or consent of instructor. The structural analysis and description of human communication codes; the development of intercommunication characteristics of the source, channels and destination in human communication. Ms. French

120. Principles and Types of Group Communication. Prerequisite: course 10 or consent of instructor. Any special course or type 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 inter-ethnic and inter-cultural 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. Mr. Hargis

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. The Staff

150. Analysis of Communication Content. Prerequisite: course 100 or consent of instructor. Study of methodology for the qualitative and quantitative analysis of the content of communications. Ms. French

152. Analysis of Communication Effects. Prerequisite: course 100 or consent of instructor. Survey of experimental and field research on the effects of communications. Study of source, message, and environmental factors affecting audience response. The Staff

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 political communication within established political institutions; state papers; deliberative discourses; electoral campaigns. The Staff

165. Agitational Communication. Prerequisite: courses 100 and 101 or consent of instructor. Theory of agitation; agitation as a force for change in existing power relationships in a democratic society. Intensive study of selected agitational movements and the technique and content of their communications. The Staff

170. Legal Communication. Prerequisite: courses 100 and 101 or consent of instructor. Study of the trial and appellate processes as systems of communication. Analysis of the elements of the juridical process as they affect the quality of communication content. Study of the rules of evidence, jury behavior, and the structure of legal discourse. Mr. Rosenthal

175. Criticism and the Public Arts. Prerequisites: 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 in the aesthetic media, genre and resources of film, television, theatre and public discourse, the varieties of critical method, the problems of critical judgment. The Staff

197. Undergraduate Honors Seminar. Prerequisite: senior standing; grade point average of 3.5 or better in Communication Studies and 3.0 overall. Variable topic course involving specialized study of selected aspects of the field of human communication. Enrollment is limited. The Staff

199. Special Studies. Prerequisites: senior standing and consent of the instructor. Course of independent study for senior undergraduates who desire an intensive or specialized investigation of selected research topics. To be arranged with the member of the faculty who will direct the study. The Staff

Comparative Literature (Interdepartmental)

Arnold I. Band, Ph.D., Professor of Hebrew and Comparative Literature (Chairman of the Department), Professor of Modern English, Comparative Literature, and Comparative Languages and Literatures. Ms. French

Ross P. Siddler, Ph.D., Associate Professor of Scandinavian Languages and Comparative Literature. Ms. French

Katherine C. King, Ph.D., Assistant Professor of Classics and Comparative Literature. Ms. French

Lanham, F. Joseph, Ph.D., Assistant Professor of German and Comparative Literature. Mr. Rosenthal

Comparative Literature (Interdepartmental)

Ehrhard Bahri, Ph.D., Professor of German. Mr. Hargis

Amin Banani, Ph.D., Professor of Persian and History. Mr. Rosenthal

Marc Bensimon, Ph.D., Professor of French. Mr. Rosenthal

Marta Bortes-Jones, Ph.D., Professor of Italian. Mr. Rosenthal

Marc Bensimon, Ph.D., Professor of French. Mr. Rosenthal

Kenneth Harper, Ph.D., Professor of Slavic. Mr. Rosenthal

Claude L. Hulet, Ph.D., Professor of Spanish and Portuguese. Mr. Rosenthal

Murray Krieger, Ph.D., University Professor of English. Mr. Rosenthal

Richard A. Lamhan, Ph.D., Professor of English. Mr. Rosenthal

Richard Chan, Professor of English. Mr. Rosenthal

Victor Markov, Ph.D., Professor of Slavic. Mr. Rosenthal

Blake R. Nevis, Ph.D., Professor of English. Mr. Rosenthal

Maximilien E. Novak, Ph.D., Professor of Spanish. Mr. Rosenthal

Michael Hein, Ph.D., Assistant Professor of Slavic, Languages, and Literatures. Mr. Rosenthal

Werner Werner, Ph.D., University Professor of English and Eighteenth Century Studies. Mr. Rosenthal

Ben Belu, Ph.D., Associate Professor of Oriental Languages. Mr. Rosenthal

Frederick L. Burwick, Ph.D., Associate Professor of English. Mr. Rosenthal

Albert D. Hutter, Ph.D., Associate Professor of English. Mr. Rosenthal

Dante Luzzarghi, Professor of English and American Studies. Mr. Rosenthal

Robert M. Manuiji, Ph.D., Associate Professor of English. Mr. Rosenthal

James R. Mason, Ph.D., Professor of Psychological and Social Sciences. Mr. Rosenthal

Stephen D. Werner, Ph.D., Associate Professor of French. Mr. Rosenthal

Stephen I. Yermey, Ph.D., Associate Professor of English. Mr. Rosenthal

Michael Heim, Ph.D., Assistant Professor of Slavic, Languages, and Literatures. Mr. Rosenthal

Romey T. Keys, Ph.D., Assistant Professor of English. Mr. Rosenthal

UCLA's Program in Comparative Literature requires that all degree candidates demonstrate linguistic, historical, and critical competence in two or more languages or literatures. Candidates for the Ph.D. degree are examined in at least two literatures, one major and one minor. Candidates for the Ph.D. degree are examined in at least two literatures, one major and two minors. To assist students to achieve this goal, the Comparative Literature Program draws upon the facilities, services, and faculty of UCLA's language and literature departments and programs. While specific required courses in various aspects of Comparative Literature are sponsored by the Graduate Program in Comparative Literature, students do much of their course work in the
appropriate language and literature departments: members of these departments participate in the advising and examination of all degree candidates. Students may be admitted as candidates for either the M.A. or Ph.D. degrees. Students who enter with only the B.A. degree must register in the M.A. program. Though students are advised to enter in the Fall Quarter of the academic year, they may begin their studies in the Winter or Spring Quarter.

**REQUIREMENTS FOR THE M.A.**

**Admission Requirements for the M.A.**

1. For entrance into the program, a B.A. in literature, ancient or modern, is a prerequisite. Students not having a literature major in their B.A. program will still be required to demonstrate the equivalent knowledge and comprehension of one literature before being considered a graduate student in good standing.

2. Applicants are expected to have at least a 3.4 GPA in upper division literature courses.

3. All applicants for admission must take the GRE examination.

**Areas of Study for the M.A.**

The student's study plan should combine the work in the major and minor literatures by focusing on a limited area in which these literatures can be fruitfully explored. The area may be a literary period (e.g., Romanticism), a genre (e.g., the novel), or a theoretical problem.

**The Major Literature.** The major literature is the area of the student's primary concentration. He/she specializes in one historically defined period (e.g., Medieval, Renaissance and Baroque, Neo-classicism and 18th century, Romanticism to Modern) but a general knowledge of the major literature is a prerequisite of the specialization.

**The Minor Literature.** In the minor literature the student focuses on a period comparable to the area of specialization in the major literature. However, it is assumed that the student may not have as much historical depth and breadth in the minor literature as in the major.

**Foreign Language Requirements for the M.A.**

Literacy proficiency in the major and minor literatures is an essential prerequisite for courses and degrees in Comparative Literature. Students are expected to take graduate classes conducted in the languages of their specialization. The candidate should be able to speak the major foreign language adequately and read literary texts in that language with "literary proficiency," i.e., with sensitivity to stylistic nuances.

Before completion of the M.A., knowledge of two foreign languages is required. Proficiency in one of these languages must be certified by completion of at least three upper division foreign language courses in the appropriate language department. (Students must prove more than elementary language competency in order to enter upper division and graduate courses at UCLA.) The second foreign language requirement may be completed either by course work or by passing the ETS foreign language examinations administered by the Graduate Division. In those cases where such examinations are unavailable, translation examinations may be administered by departmental members.

**Course Requirements for the M.A.**

Candidates for the M.A. degree specialize in two literatures in which they take a total of eight courses; five are taken in the major literature and three in the minor literature. Four additional courses are taken from those designated as Comparative Literature courses.

The following twelve courses are the minimal course requirements. Some students will take extra courses to make up deficiencies.

1. Four courses in Comparative Literature
   A. Comparative Literature 200—Methodology; theory of literature; bibliography; etc.

B. Comparative Literature 201—Contemporary theories of criticism.

C. The comparative study of one genre, e.g., the novel, the epic, the lyric.

D. The comparative study of one period or movement, e.g., Baroque, Romanticism.

2. Five courses a minimum of three must be graduate courses, upper division in the student's major literature. The departmental course in the history of the language of that particular literature may be included.

3. Three courses, either graduate or upper division, in the student's minor literature. The student should study in enough detail to demonstrate the minor literature which lends themselves to comparison with similar elements in his/her major literature.

4. Of the above required courses, 12 units at most may be 500 series courses.

**Qualifying Examination for the M.A.**

The examination for the M.A. is both written and oral, and is designed to demonstrate the student's knowledge and comprehension of methodology. The results of this examination determine the student's ability to continue toward the Ph.D. in Comparative Literature. There are three possible results of the examination: a student may be allowed to progress toward the Ph.D., may be granted a terminal M.A., or may fail the examination altogether.

The written examinations of six hours in the major literature and three in the minor, test the student's knowledge of a minor language adequately for any third language before taking the examination.

The written examination consists of approximately fifteen to twenty authors in the major literature and ten authors in the minor literature. Normally, the student will be allowed to choose three from each of the six areas: major, minor, major and major, minor and major, major and minor. The student's study plan should combine the work in the major and minor literatures. In the second minor, a combination of three upper division and graduate courses may be required. Students entering Comparative Literature with a single major or two literatures are usually required to take the four Comparative Literature courses required for the M.A.

**Study Plan for the Ph.D.**

The student's study plan should combine the work in the major and minor literatures by focusing on a limited area in which these literatures can be fruitfully explored. The area may be a literary period (e.g., the late Middle Ages, the sixteenth century, or the Romantic Age) or a particular aspect common to all three 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 style or modes of interpretation; comparisons of classical and modern genres and themes; questions about the artistic processes and different artistic forms for literary problems in literary aesthetics or epistemology.

**Qualifying Examinations for the Ph.D.**

Ph.D. candidates usually take their Qualifying Examinations six to eight quarters after the M.A., although it is possible to take the examination as soon as the candidate's doctoral committee feels that he/she is adequately prepared. The examinations are both written and oral and may be taken over a period of two to three quarters.

The written examinations are based on reading lists for the major and two minor literatures. The reading lists for the major and minor literatures are the same as the reading lists to which the student has been exposed as part of the M.A. program or its equivalent. The student's study plan should combine the work in the major and minor literatures and consist of approximately 50 to 60 primary works or items (an item is equivalent to a novel or a long play). The reading lists for each major and minor literature focus on the student's specialization and consists of approximately 25 to 30 primary works. Sample reading lists are available in the Program's office—334 Royce Hall.

**Course Requirements for the Ph.D.**

For entrance into the Ph.D. program, an M.A. in Comparative Literature is not required. Students with an M.A. 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. 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. This examination establishes that the applicant is at the same level of graduate work in both major and minor literatures as one of the Program's M.A. students. The examination is conducted along similar lines to the M.A. examination described above. It should be taken within the first year of residence.

**Foreign Language Requirements for the Ph.D.**

The candidate must have literary proficiency in at least two foreign languages and a reading knowledge of a third foreign language before taking the qualifying examination. Two of these three must be from the same language group, i.e., Romance and Germanic, English and Slavic, etc. If the student intends to offer three literatures in foreign languages for his Ph.D. degree, he is 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.

**Assessment of Grading:**

Grading is on a pass/fail system, with the exception of the written examinations, which are graded on a letter grade basis. Students are required to pass all written examinations and to maintain a minimum grade of B in all graduate courses. Students who do not pass the written examinations must repeat them until they are passed. Students who maintain a grade of C or better in all graduate courses and pass the written examinations are recommended for the Ph.D. degree.

**NOTES:**

1. Competence as determined by the reading lists and the written examinations in the major and minor literatures.

2. Both a familiarity with major critical texts pertaining to the reading lists and competence in general literary theory.

3. The proposed dissertation must demonstrate original critical work in the field. Comparative Literature students may write a dissertation on a single subject or a series of interrelated topics. It is assumed that their wide range of knowledge would be demonstrated by the quality of the work.

**Graduate Courses**

200. The Methodology of Comparative Literature. Prerequisite: Consent of the instructor. A study of
both the methodology of comparative literature and
the theory of literature. Mr. Shideler
201. Contemporary Theories of Criticism. Prereq-
usites: Comparative Literature 200 or its equiva-
 lent. A critical survey in the theory of literature,
focusing upon structuralist, psychoanalytic, and
Marxist approaches. The Staff
202. Problems in the Theory of Literature. Prereq-
usites: A reading knowledge of French or German;
Comparative Literature 201 or its equivalent. A study of specific topics in the theory of literature for
advanced students in criticism and literary theory.
The Staff
204. Psychoanalytic Approaches to Literature. Pre-
quisites: Comparative Literature 200 or the
equivalent criticism course in English. A study of the
development of modern psychoanalytic approaches
to literature, with particular stress on
effective theories of criticism. Readings will include
Freud and the psychoanalytic critics (Crews,
Hollander and modern British and American psy-
choanalytic theorists (Winnicott, Sacher) whose
work is applicable to literary theory. Mr. Hutter
205. The Comic Spirit. Prerequisites: Reading
knowledge of one appropriate foreign language.
May be concurrently scheduled with Humanities
109). A study of both dramatic and
comic, selected to demonstrate the varieties
of comic expression. Graduate students will be
required to prepare papers based on texts read in the
original language, which will meet as a group an additional
each week. Mr. Band
209. The Crisis of Consciousness in Modern
Literature. Prerequisites: Reading knowledge of
one appropriate foreign language. (May be concur-
rently scheduled with Humanities 109). Study of
european and American works which are
concerned both in subject matter and artistic
methods with the growing self-consciousness of the
artist and society, focusing on the works of
Flaubert, Mann and Nabokov. Graduate
students will be required to prepare papers based on
read by instructors in the original language.
These papers will meet as a group an additional
week each week. The Staff
210. From Epic to Novel. Seminar, three hours. Pre-
quisites: Literature proficiency in one language.
ancient or modern. A comparative study of
the themes and techniques germane to each genre.
The Staff
211. The Lyric: Classical to Modern. Prerequisite:
Some knowledge of either Latin or Greek.
An examination of the genres and conventions of
Greek and Roman lyric poetry and their influence on
subsequent European poetry. The Staff
222. Ovid’s Influence on European Letters. Pre-
quisite: Elements of Latin or consent of the in-
structor. Readings in Latin and in translation from
Ovid’s works, particularly Amores and
Metamorphoses. Analysis of Ovid’s place in Latin
letters and his influence on subsequent European literature.
The Staff
229. Archetypal Heroes in Literature. Prereq-
usites: Reading knowledge of one appropriate
foreign language. (May be concurrently scheduled
with Humanities 129). Survey and analysis of the
function and appearance of such archetypal
heroes as Odysseus and Aeneas in literature from
antiquity to the modern period. Gradu-
ate students will be required to prepare papers based on
texts read in the original language and will meet as a group an additional hour each week.
The Staff
230. Translation Workshop. Prerequisite: A solid
reading knowledge of at least one foreign language
and consent of instructor. The theory and practice
of literary translation. Analyses of significant
theoretical contributions to this field. Weekly exer-
cises in translation technique with genres, periods,
and authors at the discretion of the participants.
Open to qualified undergraduates with proper
language preparation. Mr. Heim

240. Medieval Epics. Prerequisites: Reading
knowledge of one appropriate foreign language.
(May be concurrently scheduled with Humanities
145). The course will consider the
Beowulf, El Cid, Chanson de Roland, Nibelungenlied,
and Njalasaga. There will be two objectives: first,
a critical understanding of each work, and second,
an understanding of the nature of epic literature.
Readings will include extended seminars, a
handwritten paper and short oral reports. Graduate students will be required to prepare papers based on texts
read in the original languages.
Mr. Conrden
245. Renaissance Drama. Prerequisites: Reading
knowledge of one appropriate foreign language.
(May be concurrently scheduled with Humanities
145). The course will offer a broad introduction to
the subject matter and types of plays in the Rena-
issance. Historical and literary influences on the
plays will be considered. Readings will include
works of some dramatists as: Tasso, Machiavelli,
Lope de Vega, Racine, Jonson, Shakespeare.
Graduate students will be required to prepare papers based on texts read in the original language and
will meet as a group one additional hour per week.
Mr. Braunmuller
251. Varieties of Picaro Figure Fiction in the 18th
Century. Prerequisite: Some knowledge of eight-
teenth century English literature, and a reading
knowledge of two of the following languages: French,
Spanish, German, Italian. A study of the
theatres of picaro figure fiction during 1700-
1800, with special attention to the novels of Defoe,
Fielding, Smollett, Diderot, and Rousseau.
The course will begin with a study of Cervantes’ Don
Quixote and will map out a critical theory for
quixotic versus picaro figure fiction.
Mr. Rousseau
252. Structural Problems in Autobiography. Prereq-
usites: A reading knowledge of one European
dialect as the language of the course.
This course will explore the ways in which writers of different
nationalities and cultural backgrounds conceive of the
form known as autobiography. Students will be
required to prepare papers based on texts read in the
original language.
This course will meet as a group an additional
hour each week. Mr. Rousseau
260. Literature and the Other Arts. (Same as
Humanities M160.) Prerequisites: upper division
standing and literature major. (Reading knowledge of
Freud and the early psychoanalytic critics (Crews,
Hollander and modern British and American psy-
choanalytic theorists (Winnicott, Sacher).) Gradu-
ate students will be required to prepare papers based on
texts read in the original language. These students will meet as a group an additional
hour each week. Mr. Band
266. Mozart and the Literature of Opera. (Same as
Humanities M118) Prerequisites: Reading knowledge
of either French or German. This course will consider
the metamorphoses of picaresque fiction during 1700-
the 18th century novel in England and on the continent.
The course will be given to studies of the transition
made between theories of nature and theories of
man. Historical contexts and their influence on subsequent
theoretical and thematic contexts of the literature of the
18th century. Mr. Pasinetti
270. The Dream in English and German Romantic
Literature. Prerequisites: Reading knowledge of one
appropriate foreign language. (May be concurrently
scheduled with Humanities 170). A study of the
development of modern European and American works which are
concerned both in subject matter and artistic
methods with the growing self-consciousness of the
artist and society, focusing on the works of
Flaubert, Mann and Nabokov. Graduate
students will be required to prepare papers based on
read in the original language. These students will meet as a group an additional
hour each week. Mr. Burwick
274. The Search for Organic Forms. Prerequisite:
Reading knowledge of French or German. A semi-
novar devoted to theories of the “organic” in the eight-
ten and nineteenth centuries with particular stress on
the aesthetics of tragic
romantic interaction, the demonic vision, and the
satirical sketches of man’s abnormality and pervers-
ity. Graduate students will be required to prepare papers based on texts read in the original language and
will meet as a group an additional hour each week.
Mr. Burwick
275. The Nineteenth Century Novel. Prerequisites:
Ability to read either French or German. (This course may be concurrently scheduled with Humanities
175). A comparative study of the 19th
century novel in English and on the continent.
Courses will be selected to as to allow the student to
concentrate on a particular tradition or critical
problem. The Staff
276. Fiction and History. Prerequisites: Reading
knowledge of one appropriate foreign language.
(May be concurrently scheduled with Humanities
176). The course analyzes the use of historical
events, situations, and characters in works of fiction
which are not necessarily “historical novels.”
Texts and individual assignments range from nine-
ten century author such as Chaucer, Tasso,
Verga, to Proust and contemporaries such as
Vidal, Grass, Garcia Marquez. Use of fictional methods by
historians may also be analyzed. Mr. Pasinetti
277. Sexual Stances in Modern Fiction. Prereq-
usites: Reading knowledge of one appropriate foreign
language. (May be concurrently scheduled with Humanities
176). An examination of sexual
stances employed in fiction, beginning with heterosexuality in Stendhal and continuing through
women’s fiction to the present. Mr. Fowl
and Lawrence: awareness of feminism in Woolf and
Murdock, and gayness in Cide, Forster and Isher-
wood. Graduate students will be required to pre-
pare papers based on texts read in the original language and
will meet as a group an additional hour each week.
The Staff
280. The Symbolist Tradition in Poetry. Prereq-
usites: Reading knowledge of either French or
German. (May be concurrently scheduled with Humanities
180). A study of the symbolist tradition
in English, French and German poetry. Graduate
students will be required to prepare papers based on
texts read in the original languages and will
meet as a group an additional hour each week.
Mr. Shideler
281. Poetry and Poetics of the Post-Symbolist
Period. Prerequisites: Reading knowledge of either
French or German. (May be concurrently scheduled with
Humanities 180). A study of the
dominant poetic trends and figures in European
and English poetry in the first half of the 20th century including such Surrealists as G. Appollinaire
and A. Breton, imagists, and major individual
poets such as Pound, Eliot, Pound, R.M.
Rilke, Stefan George, and Wallace Stevens. Gradu-
ate students will be required to prepare papers based on
texts read in the original languages and
will meet as a group an additional hour each week.
Mr. Shideler
290. The Distracted Scholar. Prerequisite: A read-
ing knowledge of either French or German and grad-
uate standing. A study of those scholars whose
intellectual pursuits have led them into the
unfamiliar attics and cellars of that mansion of
the Schlegels, Tieck, Jean Paul, Coleridge, De
Quincey, and Hazlitt. It gives particular attention to
the role of the actor and the idea of dramatic action as
an ideal state.
272. The Grotesque in Romanic Literature. Prereq-
usites: Reading knowledge of one appropriate
foreign language. (May be concurrently scheduled
with Humanities 172). A study of the grotesque
in the visual and verbal arts of the Romanic period.
Interpretation will address the aesthetics of trag-
comedy and his influence on subsequent European literature.
The Staff
280. The Symbolist Tradition in Poetry. Prereq-
usites: Reading knowledge of either French or
German. (May be concurrently scheduled with
Humanities 180). A study of the symbolist tradition
in English, French and German poetry. Graduate
students will be required to prepare papers based on
texts read in the original languages and will
meet as a group an additional hour each week.
Mr. Shideler
290. The Distracted Scholar. Prerequisite: A read-
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intellectual pursuits have led them into the
unfamiliar attics and cellars of that mansion of
the Schlegels, Tieck, Jean Paul, Coleridge, De
Quincey, and Hazlitt. It gives particular attention to
the role of the actor and the idea of dramatic action as
an ideal state.
human imagination which lesser minds have called irrationality. Classical specimens of such great researchers have been presented in the works of Rabelais, Burton, Swift, Voltaire, Nabokov, and Borges. The Staff

291. The Post-Joycean Novel. Prerequisite: A reading knowledge of at least one appropriate foreign language. A study of the post-Joycean novel in several of its best-known representatives: Nabokov, Robbe-Grillet, Queneau (or Batail or Claude Mauriac), Gadda, Borges, and Beckett. Some knowledge of Joyce will be assumed. The Staff

292. The Psychological Novel. Prerequisite: Major in literature and reading knowledge of French. A comparative study of French and English novels which both precede and follow the development of psychoanalysis. Selected readings of Freud will be assigned in addition to the required fiction.

293. Neoclassicism in the 1920's. Prerequisite: Reading knowledge of either French or German. A study of neoclassicism in England, France, and Germany in the 1920's with emphasis on literary texts and reference to works of fine art, architecture and music.

297. The Mystery Novel. Prerequisites: Reading knowledge of French, (May be concurrently scheduled with Humanities 117). A study of mystery and detective fiction in England, France, and the United States. The origin, form and historical significance of mystery fiction will be developed through close readings of selected works. Graduate students will be required to participate in a special discussion section and to prepare papers based on texts read in the original languages. Mr. Hutter

596. Directed Individual Study. (1/2 to 2 courses) Graded S/U only. The Staff

596X. Directed Individual Study. (1/4 to 1 course) Preparation for Foreign Language Examination. Graded S/U only. The Staff

597. Preparation for the Doctoral Qualifying Examination. (1/2 to 2 courses) Graded S/U only. The Staff

599. Research on Dissertation. (1/2 to 2 courses) Restricted to those who have passed the qualifying examination for the doctor's degree. Graded S/U only. The Staff

COUNCIL ON EDUCATIONAL DEVELOPMENT

The Council on Educational Development (CED) was created by the Los Angeles Division of the Academic Senate in May of 1968. The Council's purpose is to promote academic enrichment and encourage educational diversity and innovation. In fulfilling these objectives, the Council works closely with departments, colleges, schools and research centers on the UCLA campus. The Council is uniquely situated to offer special courses and programs, since it possesses modest funding which can be used for faculty released time or the employment of outside lecturers and teaching personnel. The Council seeks out and, upon approval, supports academic projects, programs and individual courses of scholarly excellence not otherwise available at the University, including courses of timely or topical importance. The Council can offer a course as many as three times, although in principle the Council seeks to encourage departments and schools to adopt appropriate courses into their regular curricula.

For information about CED courses consult the Schedule of Classes and the Registration and other selected issues of the Daily Bruin. Further information may be obtained from the CED office, 3121 Murphy Hall, telephone: 55467.

DANCE (Department Office, 205 Women's Gym)

Pia Gilbert, Professor of Dance.
Carol Scottorn, M.A., Professor of Dance
Emma Lewis-Thomas, Ph.D., Professor of Dance
Alma M. Hawkins, Ed. D., Emeritus Professor of Dance
Elise Durin, M.A., Associate Professor of Dance
Merton Scott, Associate Professor of Dance
Doris Siegel, Associate Professor of Dance
Allrega Snyder, M.A., Associate Professor of Dance. Chairperson of the Department
Erna Alperson, Ph.D., Assistant Professor of Dance
Kathe Copperman, M.A., Assistant Professor of Dance

* Charles Berlitz, M.F.A., Lecturer in Dance
Gloria Bowen, Lecturer in Dance
Lyda Daily, M.A., Lecturer in Dance
Gary Falitico, Ph.D., Lecturer in Dance
Alfred Lapczynski, B.A., Lecturer in Dance
Richard Lovell, M.A., Lecturer in Dance
Margaret Oved Marshall, Lecturer in Dance
Barbara Mattingly, Lecturer in Dance
Jean B. C. Hart, B.A.C., Lecturer in Dance
Mia Slavenska, Lecturer in Dance
Judy Susilo, M.A., Lecturer in Dance and Ethnic Arts
Sudhur Togi, Lecturer in Dance

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Meda von Essen, M.S., Lecturer in Dance
Melinda Williams, M.A., Lecturer in Dance.

The dance major offered in the College of Fine Arts leads to the Bachelor of Arts degree. For requirements, see College of Fine Arts.

Students who wish to confer with the department counselor regarding program planning and major requirements should see Wendy Urrigf in the department office Women's Gym 205.

Preparation for the Major


The Major

A total of 14 courses including courses 111A-111B, 151A-151B, 152A-152B, 153A-153B, 154, 158A-158B; two courses (8 units) chosen from upper division dance electives.

Admission to the Major

Readiness for 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.

Admission to Graduate Status

In addition to meeting the requirements of the Graduate Division as stated in the announcement of the Graduate Division, the student must have an undergraduate major in dance or equivalent preparation with a minimum of upper division courses in the dance concentration. Students whose preparation is deficient, as determined by Graduate Admissions, will be required to make up such deficiencies in addition to the degree program. New students will be admitted for graduate study (any quarter) to the Depart-ment of Dance only, a year at the beginning of Fall term. For more detailed information, write to the Chairman of the Department of Dance for a form which describes academic requirements and helps identify deficiencies.

Requirements for the Master's Degree

An audition for entering graduate dance majors if offered in the Winter Quarter of each year. The audition will look at the technical proficiency and creative potential of each applicant, which is expected to be equivalent to, or surpass the level of the UCLA undergraduate senior. Special attention is given to the creative aspects of dance the sense of form and flowing. Because the Department recognizes the importance of diversity and specializations at the graduate level, each applicant will be evaluated according to his/her primary focus, i.e., performance-choreography, education, therapy, and ethnology.

The Department host two auditions: one on the east and west coast. The Department is cognizant of the possible hardships such as audition requirement poses. All applications will be considered; however, priority will be given to those candidates who audition.

Graduate students may follow the thesis plan or the comprehensive examination plan. The candidate's course of study will be planned under the guidance of the graduate adviser. Emphasis may be placed on choreography, dance therapy, dance ethnology, dance education or dance history and criticism. Thesis Plan. A minimum of nine courses and a thesis. A major choreography is acceptable as partial completion of a thesis. The nine courses include 4 courses elected from the graduate courses in the dance department, 3 courses from either the dance department or outside the department selected from upper division and graduate courses, and, one course, Dance 202, Research Methods and Bibliography in Dance.

Comprehensive Examination Plan. A minimum of 10 courses as listed above, including an independent study project and a final comprehensive examination.
Lower Division Courses
10A-10B-10C. Fundamentals of Creative Dance. (½ course each) For non-dance majors. Courses must be taken in sequence. Study of dance forms in a classroom setting. Emphasis on movement and composition; improvisation. Mrs. Dunin

111A-111B-111C. Creative Dance. (½ course each) Prerequisite: course 10C or consent of the instructor. For non-dance majors. A continuing study of dance with emphasis on movement and composition; improvisation. Mrs. Dunin

30AF-30AW-30AS. Fundamentals of Ballet. (½ course per year) Open only to Dance majors. This course is offered on an In Progress basis, which requires students to complete the full three quarter sequence; no one grade is given for all quarters of work. Students are admitted in the Fall quarter only. Study of ballet techniques and principles including dance terminology. Ms. Bowen

30BF-30BW-30BS. Fundamentals of Ballet. (½ course per year) Open only to Dance majors. This course is offered on an In Progress basis, which requires students to complete the full three quarter sequence, at the end of which one grade is given for all quarters of work. Study of ballet techniques and principles including dance terminology. Students admitted in the Fall quarter only. Ms. Bowen

35. Music Analysis for Dance. (½ course) Study of the elements of music, music structures, and their relationship to dance, with emphasis on rhythmic analysis, dance accompaniment and teacher-accompanist roles. Mrs. Gilbert

36A-36B-36C. Fundamentals of Creative Dance. (½ course each) Open only to dance majors. Courses must be taken in sequence. Study of dance through varied experience in movement including historical and contemporary forms with emphasis on increasing ability to use movement creatively and to relate to dance the principles and elements of other arts. Ms. Williams

37A-37B-37C. Creative Dance. (½ course each) Prerequisite: course 36C. A continuing study of dance with emphasis on movement principles and choreography. Mr. Tracy

38A-38B. Dance Notation. (½ course each) Prerequisite: courses 35 and 36C. Study of Labanotation with experience in recording and interpreting dance scores with emphasis on reading skills. Ms. Copperman

46A-46B-46C. Fundamentals of Movement. (½ course each) Prerequisite: consent of instructor. Study of fundamental principles of movement emphasizing body awareness, exploring movement potential, and structuring of dance forms. Consideration of cultural influences on expressive forms. Ms. Suliso

47A-47B-47C. Dance Forms. (½ course each) Prerequisite: course 46C. A continuing study of dance forms with consideration of social factors and environmental influences. Includes observation and analysis of movement and the development of basic skills in Labanotation. Mrs. Dunin

52. Introduction to Dance Theater. (½ course) Prerequisite: course 36A. Study of the interaction of the aesthetic components of dance theater. Mrs. Siegel

50A-70B. Introduction to Performance in Ethnic Dance. (½ course each) Study of basic movement in ethnic dance forms. Mrs. Dunin

71A-71Q. Performance Courses in Ethnic Dance. (½ course each) May not be repeated for credit. (A) Dance of Bali; (B) Dance of Africa; (E) Dance of India; (F) Dance of Israel; (G) Dance of Japan; (H) Dance of Java; (J) Dance of Mexico; (L) Dance of Scotland; (M) Dance of Spain; (P) Dance of Yugoslavia; (Q) Dance of Korea. The Staff

Upper Division Courses
111A-111B. Analysis of Human Movement. Prerequisite: course 511A. An introduction to the development of dance techniques, factors influencing the development and functions of dance and the roles they play in society and history. Mr. Tracy

111C. Analysis of Human Movement. Prerequisite: course 511A-111B. An introduction to the development of dance techniques, factors influencing the development and functions of human body. Mr. Tracy

112A-112F. Intermediate Modern Dance Technique. (½ course each) Prerequisite: course 150C or consent of instructor. Synthesis of previous dance experience, advanced technique, and individual and group choreography. Ms. Copperman, Ms. Daily

114A-114F. Advanced Contemporary Dance. (½ course each) Prerequisite: course 153C or consent of the instructor. Advanced technique in contemporary dance with emphasis on performances. The Staff

116. Improvisation in Dance. (½ course) Prerequisite: consent of instructor, course 37C. Practical study of the art of improvisation with emphasis on centering, spontaneity, and the generation of new movement materials and forms as a movement and within the group. Miss Williams

127. Foundation of Dance Education. Prerequisite: course 150C or consent of instructor. Analysis of theoretical aspects of movement and choreography with special reference to teaching in junior colleges and higher education. Mr. Tracy

128. Dance as Culture in Education. Prerequisite: course 70A or consent of instructor. Analysis of theoretical and practical aspects of ethnic dance forms with special reference to teaching in higher education. Mrs. Dunin

131A-131B-131C. Intermediate Ballet. (½ course each) Prerequisite: course 30B or consent of instructor. Open only to dance majors. Courses must be taken in sequence. Study of advanced techniques and principles of classical ballet including phrasing, combinations, and repertory works. Miss Slavenska

132A-132F. Advanced Ballet. (½ course each) Prerequisite: course 131C. Advanced technique in classical ballet with emphasis on performing skills. Miss Slavenska

140A-140B-140C. Dance Cultures of the World. A survey of dance in selected cultures, the role of dance in society, consideration of style, rhythmic structure, historical background and related folklore. Lectures illustrated with demonstrations, film and recordings. (A) Asia (folk and tribal traditions); (B) Asia (art, tribal and folk traditions); (C) North American Indians (tribal and folk traditions). Ms. Skinner

142. Dance in the Balkans. Prerequisite: course 71P. An introduction to the dance of the Balkans, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Mrs. Dunin

143. Dance in India. Prerequisite: course 71E. An introduction to the dance of India, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Mr. von Essen

144. Dance in Indonesia. Prerequisite: course 71A or 71H. An introduction to the dance of Indonesia, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Ms. von Essen

145. Dance in Japan. Prerequisite: course 71G. An introduction to the dance of Japan, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Ms. Suliso

146. Dance in Latin America. Prerequisite: course 71J. An introduction to the dance of Latin America, factors influencing its development and social functions, consideration of the relationship of dance to other art forms. Mr. Tamaris

150A. Form and Structure in Choreography. (½ course) Prerequisite: course 150C. Study of the use of composed music, the group composition, and the theatrical environment; synthesis of previous dance experience, theories and technique of outstanding dance artists, principles of dance movement related to dance. Mrs. Scott

151A. History of Dance in Western Culture, Origins to 1600. Lecture, four hours. 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

151B. History of Dance in Western Culture, Early Baroque to the Present. Lecture, four hours. The evolution of dance as an art form in historical context, with special emphasis on the development of style in any given period. The role of dance as established from European court entertainment to American theatrical presentation is studied chronologically from the early 1600s on. Mrs. Thomas

152A. Lighting Design for Dance Theater. (½ course) Lecture, two hours; laboratory, two hours. Prerequisite: course 37C. General study of costume history, selected historical and contemporary styles and introductory drawing as a conceptual basis for visual awareness in theatrical dance design. Designer-choreographer relationships are explored. Mr. Berlin

152C. Advanced Studies in Dance Theater Lighting. (½ course) Prerequisites: course 152A. Analysis of diverse dance theater lighting problems at an advanced level and individual development of creative solutions. Mrs. Siegel


154. Music as Dance Accompaniment. Prerequisite: course 35 or consent of the instructor. Piano and percussion improvisation in dance. Mrs. Gilbert

155. Form and Structure in Choreography. Prerequisite: course 36C. A study of the craft of choreography as taught by selected artists including Louis Horst, Doris Humphrey and Helen Tamiris. Attention will be given to their concepts of form and structure as well as philosophical bases on which these approaches were formed. Ms. Scott

158A-158B. Philosophical Bases and Trends in Dance. (1, ½ course) Prerequisite: course 150C. Critical analysis of dance as a creative experience and the role of professionalism and education in dance in our society. Study of selected approaches to current development in dance. Mrs. Gilbert

159. Advanced Dance Notation. Prerequisite: courses 37A and 38A-38B. Intermediate and advanced Labanotation. Reconstitution and score preparation in ballet, modern, and ethnic dance. Mr. Tracy

160. Creative Dance for Children. Prerequisite: course 35 or consent of the instructor. Study of dance as an expressive medium for children with emphasis on concepts and principles. Mrs. Williams

165A-165B-165C. Introduction to Movement Dynamics and Personality Growth. (½ course each) Prerequisite: course 150C or consent of instructor. Courses must be taken in sequence. Study of movement experience, as a means of increasing awareness, spontaneity, and self-directed non-verbal response to inner and outer
stimuli. Emphasis on the dynamic (energy and spatial) aspects of movement with special attention to the felt-dimension associated with the experiencing.

Mrs. Lovell

12A-171P. Performance Courses in Ethnic Dance. (1/2 course each) Each course may be repeated, with the consent of the instructor, for a maximum of 6 units. Prerequisite: corresponding course in 71A-71P series (e.g., 71A is prerequisite to 71B. 71B is prerequisite to 71B, etc.). (A) Dance of Bali; (B) Dance of Ghana; (E) Dance of India; (F) Dance of Israel; (G) Dance of Japan; (H) Dance of Java; (J) Dance of Mexico; (L) Dance of Scotland; (M) Dance of Spain; (P) Dance of Yugoslavia.

190A-190B-190C. Advanced Dance Performance. (1/2 course each) Prerequisite: consent of the instructor. The study of performance of major choreography. Mrs. Scatterum, Ms. Scott

197A-197B. Proseminar: Dance Perspectives. (1/2 course each) Prerequisite: upper division standing or consent of the instructor. Consideration of the aesthetic evolving from the work of the great artists of our time.

The Staff

199. Special Studies in Dance. (1/2, 1, or 2 courses) Prerequisite: senior standing and consent of the instructor. The Staff

Graduate Courses

Not open to undergraduate students. See College of Fine Arts, Unit Requirements.

200. Dance Notation. (1/2 course) Prerequisite: course 159. Advanced study of dance notation. Mr. Tracy

202. Research Methods and Bibliography in Dance. Mrs. Faltico, Mrs. Thomas

204A-204B-204C. Advanced Choreography. (1/2 course, 1 course, 1/2 course) Prerequisite: course 151C or the equivalent. Theoretical and creative aspects of advanced choreography. Mrs. Scatterum, Ms. Scott

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, realistic self-evaluation as well as critical counsel by acknowledged choreographers. Mrs. Scatterum, Ms. Scott


208. Principles of Dance Theater. Prerequisite: course 152A-152B. Principles which serve the presentation of dance. Mrs. Scatterum

210. Aesthetics of Dance. Prerequisite: course 158B. A critical analysis of aesthetic concepts related to dance. Mrs. Thomas


221. The History of Ballet. Prerequisite: 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. Prerequisite: course 151A-151B or consent of instructor. The evolution of the dance suite will be traced from its earliest records (Domenico da Piacenza, 1430) to codification in words of Arbeau, Caroso, Negril (1580-1610). Style will be studied through reconstruction of steps, costumes, music and presentation form. Mrs. Thomas

226A-226B-226C. Dance Expressions in Selected Cultures. Prerequisite: course 140 or consent of instructor. Dance as an aspect of culture and human behavior. A survey of writings on dance, ethology and literature from related disciplines, particularly anthropology and the behavioral sciences as well as techniques for research. Mrs. Snyder

227A-227B. Advanced Studies in Dance Education. Prerequisite: consent of instructor and 227A is prerequisite for 227B. Concepts in the area of movement, creativity, and learning applied to the art of dance. Development of dance in higher education with consideration of the body of knowledge, curriculum development and administrative problems. Ms. Williams

251A-251B-251C. Dance in Rehabilitation. Prerequisite: consent of the instructor. Dance in the therapeutic setting. A year course including a study of related research and literature, theoretical foundations for movement therapy, and individual research projects. Ms. Alperson

252A-252B-252C. Seminar in Movement Therapy. Prerequisites: courses 251A-251B-251C and course 596B. Selected topics explored in depth; theoretical concepts related to clinical experience. Ms. Alperson

Professional Courses

327A-327B. Principles of Teaching Dance. (1/2 course each) Prerequisite: senior standing or consent of the instructor. A study of methods, curricular materials, and evaluation procedures as related to the teaching of dance in the secondary school. Mrs. Dunin

495. Preparation for the Teaching of Dance in Higher Education. (1/2 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. Graded S/U. Mrs. Williams

Individual Study and Research

598A. Directed Individual Study or Research. (1/2 to 2 courses)

598B. Directed Study or Research in a Hospital or Clinic. (1/2 to 2 courses) Ms. Lovell

599. Preparation for the Comprehensive Examination for the Master's Degree. (No Credit)

598. Research for and Preparation of the Master's Thesis. (1/2 to 2 courses)

Related Courses in Other Departments


25. Sculpture.

30A. Introduction to Design and Technology.

50. Ancient Art.

51. Medieval Art.

52. Renaissance Art.

53. Baroque Art.

54. Modern Art.

55. Africa, Oceania and Native America.

56. Asia, Mid-East.

110A-110B-110C. European Art.

110D. Contemporary Art.

122. History of Style and Ornament.

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.

Humanities 1A-1B. World Literature.


132A-132B. Development of Jazz.


140A-140B-140C. Musical Cultures of the World.

Theater Arts 5A-5B-5C. History of the Theater.


101. Introduction to the Theater Arts.

102A-102B. Selected Topics in the History of the European Theater.

105. Main Currents in Theater.

118A-118B. Creative Dramatics.

122. Make-up for the Stage.

188. The Aesthetics of Vocal Communication.

DENTISTRY (ORAL BIOLOGY) / 129

(Department Office, 63-050 Health Sciences Center)

Thomas K. Barber, D.D.S., M.S., Professor of Pediatric Dentistry.


Angelo A. Caputo, M.S., Ph.D., Professor of Biomatics Science.

Fermin A. Carranza, Jr., D.D.S., Dr. Odont., Professor of Periodontics.

Sprio J. Chaconas, D.D.S., M.S., Professor of Dentistry.

Andrew D. Dixon, D.D.S., M.D., Ph.D., Professor of Dentistry.

Louis J. Goldberg, D.D.S., Ph.D., Professor of Dentistry (Oral Biology) and Anatomy (Chairman, Oral Biology Section).

E. W. Ewing, Jr., D.D.S., M.S., Professor of Periodontics.

Carol M. Newton, M.D., Ph.D., Professor of Biomathematics.

Bernard C. Sarnat, M.D., M.S., D.D.S., Adjunct Professor of Oral Biology and Plastic Surgery.

Max H. Schoen, D.D.S., M.P.H., Ph.D., Professor of Public and Preventive Dentistry.


Normal S. Simmons, D.M.D., M.S., Professor of Anatomy.

Nearly F. Sognaeas, Ph.D., D.D.S., Professor of Periodontics and Anatomy.

Alfred Weinstock, D.D.S., Ph.D., Professor of Periodontics and Anatomy.

Robert B. Wolcott, D.D.S., M.S., Professor of Restorative Dentistry.

Fred Herzberg, D.D.S., M.S., Emeritus Professor of Oral Biology and Research Anatomist.

John Beumer, III, D.D.S., M.S., Associate Professor of Restorative Dentistry.

Colin K. Fraenker, Ph.D., Associate Professor of Oral Biology.

Douglas L. Jensen, Ph.D., Associate Professor of Oral Biology and Physiology.

Michael G. Newman, D.D.S., Associate Professor of Periodontics.

George R. Riviere, D.D.S., M.S., Ph.D., Associate Professor of Pediatric Dentistry and Oral Biology.

William L. Selberg, D.D.S., M.S.D., Associate Professor of Restorative Dentistry.

Ray E. Stewart, III, D.D.S., M.S., Associate Professor in Residence of Pediatric Dentistry and Pediatrics.

Stuart C. White, D.D.S., Ph.D., Associate Professor of Oral Radiology.

Gerald C. Brundo, D.D.S., M.S., Assistant Professor of Restorative Dentistry.

Russell Christensen, D.D.S., M.S., Assistant Professor of Oral Diagnosis.

Glenn L. Clark, D.D.S., M.S., Assistant Professor of Oral Pathology.

Bruce Crispin, D.D.S., M.S., Assistant Professor of Operative Dentistry.

Donald F. Duperon, D.D.S., M.S., Assistant Professor of Restorative Dentistry and Pediatrics.

Jay Gershon, D.D.S., Ph.D., Assistant Professor of Pediatric Dentistry and Public Health.


Bruce D. McKeel, D.D.S., M.S., Assistant Professor of Prosthodontics.

Marlin Walling, D.D.S., M.S., Adjunct Assistant Professor of Orthodontics.

NOTE: For key to symbols, see page 74.
202. Principles and Methods of Research. One hour lecture and three hours of lab per week. This course is designed to familiarize the student with the experimental method and its application to basic and applied research. It will include experimental methods and design and interpretation of data. The student will be exposed to research instrumentation and the advantages and limitations of various investigative tools.

Mr. Goldberg and the Staff

203. Growth and Development. Four hours of lecture per week in the spring quarter. A course of lectures and laboratory instruction the development and histological structure of the facial region and the oral and peri-oral organs and tissues.

Mr. Donald Carlisle, Ph.D., Professor of Geology and Mineral Sciences

Mr. Junge and the Staff

206. Biology of the Neoplastic Cells. (4 course) One hour seminar per week. Selected topics in oncology are surveyed to provide an acquaintance with current perspectives on the etiology of cancer. Recent research on tumorigenesis is evaluated with the view of possible applications to therapy and management of human neoplasms. Mr. Franker

Mr. Goldberg

210. Nervous System Control of Masticatory Muscles. (4 course) One hour seminar per week. This course includes reflex control, motor cortex-pyramidal system and vestibulocerebellum, system, cerebellum, and discussion of current theories of mastication and jaw position.

Mr. Bernard

215. Genetics in Dentistry. (4 course) Two hours lecture per week. This course includes molecular and cytologic basis of inheritance, human cytogenetics, mendelian genetics and polygenic modes of inheritance, regulation of metabolism, genetic diseases affecting the oral facial area, and recent advances, i.e., amniocentesis, linkage, and cell hybridization. Mr. Stewart

Mr. Bernard

216. Biological Electron Microscopy in Dental Research. (4 course) Prerequisite: consent of instructor. A review of the application of electron microscopy to hard and soft tissues of the oral-facial region. Emphasis given to oral health problems and content adapted to special interests of the participants. Mr. Dixon

Mr. Dixon

218A. Oral Pathology. (4 course) Two hours of lecture per week. This course encompasses the embryology, cell biology, histopathology, histophysiologic, and symptomatology of oral pathologic condition of local or systemic origin. The course consists of lectures, demonstrations (laboratory tests), and microscopy dealing with the developmental, inflammatory, neoplastic, metabolic, degenerative diseases and physical injuries and healing of wounds. The Staff

225. Oral Immunopathology. (4 course) Prerequisites: consent of instructor. This seminar will evaluate the involvement of immunological phenomena in the pathogenesis of oral diseases such as connective tissue diseases, periodontal disease, oral ulceration, and hypersensitivity reactions. Alterations of the immune system which affect the oral cavity will also be discussed. Mr. Rioviere

M224A-224B. Structure and Chemistry of Connective Tissue. (4 course) Each (Same as Anatomy M224A-224B) Prerequisite: consent of instructor. This seminar course is designed for graduate students in dentistry or basic science. The objective of the course is to provide students with fundamental knowledge of the chemical composition of bone, dentin, cementum, cartilage, cells of connective tissue in general, as well as enamel. Emphasis will be placed on the biosynthesis of collagen, noncollagenous proteins and glycoproteins, and glycosaminoglycans (GPCs). The possible roles of the cellular and noncellular elements in the process of biological mineralization will also be discussed. Correlation of biological processes to periodontal pathology will be stressed when possible.

227. Cellular and Molecular Biology. (4 course) This 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 meeting, 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 craniofacial development will be considered: Historical review; modes of growth; general and craniofacial (mandible, midface, cranium) growth; methods of assessing; factors affecting; and conflicting hypotheses. The student will be encouraged to pursue his particular interest.

228. Dental Embryology and Histology. (4 course) The student will be able to describe and interpret the anatomy of the developing craniofacial apparatus and histologic features of its component tissues. The student will be able to critically evaluate the human literature relevant to the course content and will be able to understand the current state of our knowledge about selected features of the oral-facial apparatus which are of significance to the clinical dental specialist. Mr. Dixon

229. Dental Therapeutics. (4 course) Lecture, two hours; and seminar, two hours. Seminar sessions consisting of critical analysis of dental, oral, and craniofacial research literature. Selected topics in the regulation of the oral-facial apparatus and histologic features of its component tissues. The student will be able to critically evaluate the human literature relevant to the course content and will be able to understand the current state of our knowledge about selected features of the oral-facial apparatus which are of significance to the clinical dental specialist.

Mr. Dixon

495. Communicating Scientific Information. (4 course) Two hours of lecture and laboratory per week. This course is designed to enhance the preparation of the student for university teaching and to provide an opportunity to study the problems and methodologies associated with the presentation of scientific information in professional schools. S/U grading only. Mr. Gershon

596. Directed Individual Study or Research. (4 to 13 course) Graded S/U. The Staff
Preparation for the Major. Earth and Space Sciences 1, 2, 51A, 51B, 51C; Biology 2; Chemistry 11A, 11B, 11CL; Mathematics 31A, 31B, 31C; Physics 6A, 6B, 6C.

The Major. Earth and Space Sciences 103 or 141, 111A, 111B, 111C (or 169), 112, 121A, M136A, M139; Engineering 108, 184A, B, 185A, B (% course); one course from Earth and Space Sciences 137, 141, Geography 102; Engineering 184D.

Paleobiology Specialty
Preparation for the Major. Earth and Space Sciences 1, 2, 51A,B,C; Biology 5, 6, 6I; Chemistry 11A, 11B, 11CL, 21, 22; Mathematics 31A,B,C (or 3A,B,C, 31C).


Geochemistry Specialty
Preparation for the Major. Earth and Space Sciences 1, 2, 51A,B,C; Biology 2; Chemistry 11A, 11B, 11CL; Mathematics 31A,B,C (or 3A,B,C, 31C); Physics 6A, B, C (Physics D recommended).

The Major. Earth and Space Sciences 111A-111B-111C, 112, 113, 114; Mathematics 110A,B,C, 113; (or Chemistry 22 and 24; or 184 or Earth and Space Sciences 132); three courses from Earth and Space Sciences 103, 112, 119, 121A, 128A; Chemistry 22; two Earth and Space Sciences or Chemistry courses on approval of the advisor.

Nonrenewable Natural Resources Specialty
Preparation for the Major. Earth and Space Sciences 1, 2, 51A,B,C; Biology 2; Chemistry 11A, 11B, 11CL, 11C, 11CL; Mathematics 31A,B,C (or 3A,B,C, 31C); Physics 6A, B, C (or 5A, B, C).


Bachelor of Science in Geophysics

Applied Geophysics Specialty


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 tutelage of a faculty member. 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 Department of Earth and Space Sciences prior to the end of their junior year. Honors in Geology or Geophysics are awarded upon graduation to those students who have completed a cumulative GPA of 3.4, who have completed at least 20 units of work in the basic sciences; (c) the applicant's Graduate Record Examination scores in verbal, mathematical, and analytical abilities; (d) the quality of the applicant's undergraduate work, especially in the relevant major; (e) the ree required letters of recommendation, which should be from people familiar with the applicant's academic record, especially in the relevant basic sciences; (f) the applicant's Graduate Record Examination scores; and (g) the student's academic achievements and intellectual goals, which should be consistent with the intellectual goals and motivations of occupational ones; (h) the program's goals and mission statements; and (i) the applicant's statement of purpose, which should be consistent with the intellectual goals and motivations of academic ones. Application forms and further information or assistance can be obtained by writing to the Department of Earth and Space Sciences. Application forms, transcripts, and all related materials except letters of recommendation should be submitted to the Admission Committee by the deadline set by the Graduate Division; letters of recommendation should be sent directly to the Graduate Advisor.

General University requirements. All programs are subject to the general University requirements governing graduate degrees. These are summarized in the announcement of the Graduate Division elsewhere in this Catalog and should be read in conjunction with the Department's requirements.

Department requirements. These requirements are summarized in the following sections. Variance from them will be permitted only in exceptional cases. Unofficial transcripts will be used in the determination of eligibility for candidacy. Qualifying undergraduate students may, upon consent of their advisers and the instructor, take Earth and Space Sciences graduate courses numbered from 200 to 250.)
Departmental review. The Student Affair Committee annually reviews the progress of each student (generally in late May or early June). These reviews become part of the student’s Departmental record (initially submitted to and their faculty advisors in writing. Students whose scholarship or progress are insufficient are subject to dismissal.

The normal minimum course load is 12 units per Quarter.

PROGRAM IN GEOCHEMISTRY

Admission. A bachelor’s degree in chemistry, geology, physics, or related field is required. Applicants must have outstanding records in the basic sciences, physics, chemistry, and mathematics. Recent Graduate Record Examination aptitude and advanced test scores are required; the advanced test scores are used solely for guidance in setting up students’ courses of study.

All students are assigned a three-member faculty advising committee, which is chosen by the Graduate Advisor in consultation with the student just prior to the first Quarter of enrollment. At the beginning of each Quarter each student’s program must be reviewed and approved by his or her faculty advisor before submission for official approval by the Graduate Advisor.

Master of Science Degree

Course requirements. Each course of study is worked out individually by the advising committee in consultation with the student. All students are expected to attain, either through their previous training or through prescribed course work, a mastery of the material covered in courses 51A, 51B, 51C, M130, M131, 234B, and Chemistry 110A and 110B, as well as more advanced courses in particular fields, and some familiarity with the methods of field geology (courses 111AG, 111BG, and 111CG strongly recommended). All students are required to register in 235A, 235B, or 235C each Quarter.

Written Qualifying Examination. This examination is normally taken toward the end of the second year of graduate study. It covers the field of geochemistry and related areas in biology, chemistry, and geology. It may include an oral part at the discretion of the advisory committee. If failed, it can be repeated at the discretion of the advising committee.

Oral Qualifying Examination. After passing the Written Qualifying Examination, the student must consult the advising committee and the Graduate Advisor regarding nomination of his or her doctoral committee.

The student is responsible for arranging the time and place of the examination, which should be as soon after the Written Qualifying Examination as possible. At least a week beforehand he or she must provide each member of the doctoral committee with a written prospectus of his or her proposed dissertation work. The subject matter covered in the examination includes, but is not limited to, the proposed research. Repetition of a failed examination is at the option of the doctoral committee.

Foreign language requirement. None.

Candidate in Philosophy degree. Not offered.

Final Oral Examination. Normally required.

PROGRAM IN GEOLOGY

Admission. A bachelor’s degree in geology, biology, chemistry, physics, or other field is required. Applicants must have outstanding records in the relevant basic sciences and mathematics. Recent Graduate Record Examination aptitude and advanced test scores are required. Advanced test scores are optional, and may be in any appropriate subject.

Qualified students may proceed directly toward the Ph.D. degree without first obtaining an M.S. degree.

Advising. All entering students are required to take the General Preliminary Examination at the beginning of their first Quarter of enrollment. It is a six-hour written examination which covers normal undergraduate training in geology and allied basic sciences at the level of a comprehensive examination. The examination is used to aid in setting up students’ courses of study or further course work followed by another examination. Reexamination is not normally permitted more than twice.

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. Because of the diverse backgrounds of students entering the specialization, individual courses of study will be arranged in consultation with the Committee for Graduate Study in Nonrenewable Natural Resources. Particularly relevant courses include 128B, 129A, 129B, M130, M131, M132, M136A, M136B, 137, 138, 140, 144, 150, 169, 227, 235A, 235B, 235C, 258, 268 and 283, as well as selected courses in Chemistry, Engineering, the Social Sciences, Law, and Management.

Doctor of Philosophy Degree

Course requirements. Each course of study is worked out individually by the advising committee in consultation with the student. It may include appropriate courses offered by other departments. No fixed number of courses is required, but the program must satisfy the minimum course requirements for the M.S. in Geology.

All students except those who have already passed course 111C are required to take either course 195G or the sequence 111AG-111BG-111CG in their first year of residence. A grade of U (Unsatisfactory) in 195G automatically requires taking 111BG and 111CG in the following two Quarters.

The advising committee may require additional courses in light of individual educational objectives and performance on the General Preliminary Examination.

Thesis plan. This plan is normally required for students not continuing to the doctorate. The Thesis Committee consists of the three-member advising committee, whose chair is the supervisor of the thesis research. One member of the Committee committee is from the Department, although, in this, it is not a requirement. The thesis subject may be selected at once and the research undertaken concurrently with course work; in any event it should normally be selected at the beginning of the second year of residence. The completed thesis must be approved by the Thesis Committee. It is not the Committee may on the basis of the student’s academic performance recommend either termination of graduate study or further course work or research, or both leading to submission of a revised thesis. Revision and resubmission is not normally permitted more than once.

Comprehensive-examination plan. This plan is recommended for those seeking the Ph.D. The examination is administered by the student’s three-member advising committee and one additional member who is appointed by the Graduate Advisor. The examination consists of a 6-hour written part and a subsequent oral part. The written part covers the student’s major field of study, whereas the oral part may be more general in scope. If the examination is failed, the committee may on the basis of the student’s academic performance recommend either termination of graduate study or further course work followed by another examination. Reexamination is not normally permitted more than twice.

Doctor of Philosophy Degree

Course requirements. Each course of study is worked out individually by the advising committee in consultation with the student. It may include appropriate courses offered by other departments. No fixed number of courses is required, but the program must satisfy the minimum course requirements for the M.S. in Geology.

All students except those who have already passed course 111C are required to take either course 195G or the sequence 111AG-111BG-111CG in their first year of residence. A grade of U (Unsatisfactory) in 195G automatically requires taking 111BG and 111CG in the following two Quarters.

Written Qualifying Examination. This examination must be taken before the end of the first year of the doctoral program if the student has a master’s degree; otherwise the examination must be taken at the end of the second year of enrollment. It is administered by the advising committee augmented by a fourth member who is appointed by the Graduate Advisor in consultation with the student and serves as chairman of the examining committee. It is given in either a question-answer format or a proposal-proposal format, which the student may select.
The question-answer format consists of a two-part examination. The first part is written, takes 6 hours, and can cover any aspect of geology in which the student has had training, including general background, current emphases, and in-depth study of the student's special field. The second part is oral, is taken no later than a week after the first part, and can cover subjects from the written part, the field of the proposed dissertation, and specifics of the proposed research, although it is not limited to these topics.

The proposal-proposition format consists of an oral examination based on three written independent research proposals or scientific propositions in any combination which must be submitted to the examining committee at least 10 days before the examination. One of the proposals must specify the intended dissertation research. The examination is concerned with the originality and soundness of the proposals and propositions, the depth and breadth of thinking they display, their scientific significance, and the quality of their elucidation and defense, although it is not limited to these topics.

Oral Qualifying Examination. After passing the Written Qualifying Examination the student must consult the advising committee and the Graduate Advisor regarding nomination of his or her doctoral committee. The student is responsible for arranging the time and place of the examination, which should be as soon as possible. After the Written Qualifying Examination as possible. At least a week before he or she must provide each member of the doctoral committee with a written prospectus of his or her proposed dissertation research. The second part of the examination includes, but is not limited to, the proposed research. Repetition of a failed examination is at the option of the doctoral committee.

Foreign language requirement. Advising committees may require one or more foreign languages in special circumstances. The Graduate Committee determines how the requirement is to be fulfilled.

Candidate in Philosophy degree. Offered. Final Oral Examination. Normally required, but may be waived upon recommendation of the doctoral committee.

PROGRAM IN GEOPHYSICS AND SPACE PHYSICS

Admission. A bachelor's degree in a physical science, engineering, or mathematics, or other field is required. Undergraduate work must include junior or senior level courses in mathematical methods, dynamics, electromagnetism, and thermodynamics. Recent Graduate Record Examination aptitude test scores are required. Advanced placement test scores are desirable, preferably in physics, although mathematics or geology are also acceptable.

Qualified students may proceed directly toward the Ph.D. degree, although most obtain the M.S. degree in the process.

Advising. All students are assigned a faculty advisor with research interests close to their own by the Graduate Advisor in consultation with the student just prior to the first Quarter of enrollment. At the beginning of every Quarter each student's program must be reviewed and approved by his or her faculty advisor before submission for official approval by the Graduate Advisor.

Master of Science Degree

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-level courses, of which at least half must fall within a single field of concentration (geophysics, geophysical fluid dynamics, planetology, or space physics) selected by the student with the advice and approval of his or her faculty advisor and the remainder must contribute to his or her general competence in geophysics and space physics. Courses from the 500 series and courses graded on a S/U basis do not apply toward the minimum requirement.

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. This plan is the one normally followed. The examination is the Comprehensive-Examination part of the Written Qualifying Examination taken by doctoral students, but the passing level for the master's degree is not so rigorous. 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 Advisor in extenuating circumstances.

Doctor of Philosophy Degree

Course requirements. No specific requirement.

Written Qualifying Examination. In this program this examination is divided into three stages, which must be completed before the Field Examination. (1) Fundamental Physics Examination. Students must take the final examinations in at least three of the following five categories of fundamental physics courses: (a) Physics 210A, 210B, or 210C; (b) Physics 220A; (c) Physics 231A; (d) Physics 250A; and (e) Physics 250B. For the purpose of this requirement the examinations are graded on a 4.0 scale and passing requires an average grade of 3.4 or better in at least three of the three categories. Students failing to attain a grade of 3.4 in an examination may repeat it. Students who have attained a grade of A in a comparable course at another institution may petition for credit for passing the part of the examination that pertains to that course.

(2) Comprehensive Examination. This is a 6-hour written examination on the level of the introductory courses 200A, 200B, and 200C and is given every December and June. It must be first attempted by the end of the fourth Quarter of enrollment. A grade of B or higher is required. Students must pass both parts of the examination. If a student has had training, including general back-ground (geophysics, geophysical fluid dynamics, planetology, or space physics) selected by the student with research interests close to their own by the Graduate Advisor, regarding nomination of his or her doctoral committee.

(3) Field Examination. This examination must be first attempted within a year of passing the Comprehensive Examination. It consists of a 3-hour written part (which may be waived by mutual agreement of both student and examining committee) followed by an oral part. It tests the student's general knowledge of his or her field of concentration (geophysics, geophysical fluid dynamics, planetology, or space physics) as defined by the student in a written statement to which he or she must obtain the examining committee's concurrence before arranging the examination. The examining committee consists of three or more faculty members, appointed by the Graduate Advisor in consultation with the student, of whom at least three must be from the Department and one must be from outside the student's field of concentration.

Oral Qualifying Examination. After passing the written qualifying examination the student must consult his or her faculty advisor and the Graduate Advisor regarding nomination of his or her doctoral committee.

The student is responsible for arranging the time and place of the examination, which should be as soon as possible. After the written qualifying examination as possible. The examination determines the suitability of the chosen problem for the Ph.D. dissertation and the capability of the student to pursue research on the problem, but it is not limited to these topics. Repetition of a failed examination is at the option of the doctoral committee. Students not passing this examination within 5 years after entering the program are subject to dismissal.

Foreign language requirement. None.

Candidate in Philosophy degree. Not offered.

Final Oral Examination Required.

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.

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.


5. Earth Science and Society: Geological Ecological Interactions. Geologic aspects of major environmental problems with special emphasis on the role of living with earthquakes in Southern California. Topics include the relationship between earthquakes and local and regional geology, types of past and possible future earthquakes in California, earthquake engineering, disaster preparedness, and prospects for predicting or controlling earthquakes. Mr. Coleman (Sp)


10. Geology of California. Prerequisite: course 1. General survey of major geologic features and geologic history of California; its relationship to the crustal structure of the Sierra Nevada and the eastern Pacific. Environmental geology; study of geologic hazards such as earthquakes, landslides: aspects of urban geology. Mr. Reed (Sp)

15. Introduction to Oceanography. Not open for credit to students who have taken Biology 25. Processes responsible for the chemical composition of the ocean, and current circulation patterns. Sea floor spreading and morphology of the ocean floor. Biological productivity, marine ecology, and minerals forming in the ocean. The Staff (F, W, Sp)

20. Natural History of Southern California. Identification, distribution, diversity of plants, animals, and communities; environmental factors influencing the distribution of alpine vegetation, identification, interpretation, and physical history of rocks, landforms, and structural geologic features within the physiographic regions of the state. Emphasis on integrated learning related to integrated aspects of natural history. Mr. Hall (Sp)

51A. Mineralogy-Petrology. Prerequisite: course 1. Chemistry 11C, 11CL or consent of instructor. Mineralogic crystal chemistry; relation of physical properties of minerals to crystal structure. Petrogenesis of the main rock-forming minerals. Laboratory study of crystallography and identification of minerals in igneous, sedimentary and metamorphic rocks. Mr. Dollase (F)
11B. Minerology-Petrology. Prerequisites: course 51A and an introductory course in high school or college physics or the consent of the instructor. Principles of optical properties and Utilization of optical properties to identify non-opaque minerals in immersion media and in thin section. Sufficient knowledge is presented to understand the operations involved in the laboratory. Mr. Dollase (W)

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

101. Introduction to Geophysics and Space Physics. Prerequisites: Physics 8A-8B-8C, Mathematics 31A-31B-31C. A survey of geophysics, the physics of the planets, their atmospheres, and the interplanetary medium, with emphasis on topics of current research interest. The course is designed primarily for students majoring in a physical science or mathematics. Mr. Coleman (F)

103. Intermediate Petrology. Prerequisite: course 51C. Microscopic and megascopic study of selected suites of igneous rocks and sedimentary and metamorphic rocks; their composition, occurrence, and origin. Mr. Watson (F)

105. Earth Science and Society: Nonrenewable Resources and Geologic Hazards. Prerequisite: course 1 or consent of instructor. An introduction to the alternatives, opportunities and constraints imposed upon the activities and aspirations of mankind by geological processes and by the characteristics of earth materials. Topics include the nature of lands, water, energy, or mineral resources; the nature and use of earth materials in an industrial society; methods of pollution control; and the recognition of geological hazards and possible responses. Open to non-majors. Mr. Zelazny (Sp)

108. Geothermomechanics. Prerequisites: Mathematics 32C or consent of instructor. Quantitative studies of thermal and mechanical aspects of geological and geophysical phenomena. Basic concepts of heat transfer and mechanics of solids - fluid-rock interactions and geological processes. Staff.

M109A. Geophysical Fluid Dynamics. (Same as Atmospheric Sciences M 09A.) Prerequisites: Mathematics 32C, Physics 8D. Together with Atmospheric Sciences M 109B, an introduction to fluid dynamics as applied to geophysical problems. Kinematics, f-velocity of fluid motion. IRrotation. Circulation theorems. Vorticity and vortices. Acoustic and gravity waves. Viscous flow. Mr. R.infeld, Mr. Schubert (W)

111A - 111BG-111CG. Field Geology. (4 to 1 course each) Prerequisite: graduate standing or consent of instructor. Geologic mapping, principles of stratigraphic mapping, and field methods in engineering and environmental geology, petroleum geology, and mining geology and mineral exploration; interpretation of geologic maps; field exercises in pace-and-compass topographic and geologic mapping.

Mr. Shreve (F)

111B. Stratigraphic and Field Geology. Prerequisites: course 111A, or consent of instructor. Principles of stratigraphy; geologic mapping of a selected area; preparation of a geologic report. Mr. DePaolo, Mr. Hall (W)

111C. Field Geology. Prerequisite: course 111B, or consent of instructor. Interpretation of geologic maps and aerial photographs; plane table mapping; geologic mapping of a selected area; preparation of a geologic report. Mr. Boettcher, Mr. Oertel (Sp)

112. Structural Geology. Prerequisite: course 111A normally is taken concurrently, or consent of instructor. Planar and linear structures at different scales in sedimentary, metamorphic, and igneous rocks. Faults and folds; their description, classification, and dynamic analysis. Deformation, strength, fracture, and rheological properties of rocks. Mr. Christie (F)

114. Intermediate Structural Geology. Prerequisite: course 111A. Intermediate level of structural geology, emphasizing large scale structures of the continental and oceanic crust of the earth; the geometrical and structural characteristics and characteristics of the sea; continental drift, glacial landforms and plate tectonics. Methods of structural analysis and interpretation of geologic structures. Mr. Oertel (W)

115. Principles of Paleontology. Principles governing evolution and distribution of fossils; the geologic history of plants, invertebrates and vertebrates. Mr. Schopf (Sp)

M117. Vertebrate Paleontology. (Same as Biology M 117.) Prerequisite: Biology 110. Recommended: a course in general geology. Limited enrollment. The fossil record of the evolution of the vertebrates. An emphasis on the morphology of primitive f rns in the series from fish to mammal.

Mr. V. Vaughh (W)

M118. Paleobotany. (Same as Biology M 118.) Prerequisite: one course in biological science or consent of instructor. Recommended: course 2 or equivalent. Survey of morphology, paleobotany, and evolution of vascular and non-vascular plants during geology time, with particular emphasis on major groups. Mr. Schopf (F)

119. Continental Drift and Sea Floor Spreading. Prerequisite: senior standing in Earth and Space Sciences, Physics, or Mathematics. Evidence for continental drift and sea floor spreading from age dating of marine sediments and continental crust, explanation of sea floor topography and sediments. Processes at mid-ocean rises and edges of plates. Description of events on the continental margins. Biological and biogeographic implications. Field work at option of instructors.

Mr. Bird, Mr. Ernst (Sp)

120A. Rubey Colloquium: Major Advances in Earth Science. Prerequisite: upper division standing in Earth, life, or physical sciences. Series of lectures to be offered by distinguished authorities (including regular faculty). Supervision of continuity and assessment of student performance by a faculty member. Series of lectures or transfer in minerals is a part of the course and consent of instructor. Mr. Carlisle (F)

M129A. Coal. (4 course each) Prerequisite: course 112C, 112D, or 112E. Large coal resources and reserves of the major coal-bearing stages. Geological methods of estimating coal reserves, and cost of extraction. Theories of coal formation. New geophysical techniques for estimating reserves. Regional analysis of the issues in transporting energy from the coal deposits to urban centers of usage. Mr. Anderson (F)

129B. Geochemistry. Heat flow on the surface of the earth. Origin and distribution of heat sources. Heat transfer mechanisms - atmospheric and oceanic circulation, the radiative and conductive heat transfer of the earth's surface, the earth's thermal gradient, geobarometry and geothermometry. Geology and geochemistry of geothermal areas. Drilling for geothermal power. Mr. Bird (Sp)

M130. Isotope Geochemistry. (Same as Geophysical Physics M 130.) Prerequisite: junior or senior standing in physical science. Origin and abundances of the elements and their isotopes; distribution and chemistry of the elements in the earth, oceans, and atmosphere; chemistry of the earth's interior, phase transitions, mineral reactions at high pressure and temperature. (Alternates yearly with Earth and Space Sciences M 131.) Mr. Kaplan (W)

M131. Geochemistry. (Same as Geophysics and Planetary Physics M 131.) Prerequisite: junior or senior standing in chemistry, physics, or Earth and Space Sciences. Origin and abundances of elements and isotopes; distribution and chemistry of the elements in the earth, oceans, and atmosphere; chemistry of the earth's interior, phase transitions, mineral reactions at high pressure and temperature. (Alternates yearly with Earth and Space Sciences M 129A and Geophysics and Planetary Physics M 130.) Mr. DePaolo (W)

132. Principles of Biogeochemistry. Prerequisite: Prerequisites: course 112C. Opportunities and constraints for origin and biochemical evolution of life; origin and development of petroleum: comparative properties of recent and ancient sediments, and application of
molecular stratigraphy to modern and ancient sediments. The Staff

133. Regional Geology. Prerequisite: course 111ABC or 169 or consent of the instructor. Application of geologic, stratigraphic, paleontologic, and climatic principles to specific province or provinces. Emphasis on tectonic evolution of selected regions. Mr. Nelson (W)

M136A. Geophysical Exploration. (Same as Geophysics and Planetary Physics M136A.) Prerequisite: Physics 6ABC, 8ABC, Math 31C completed or consent of instructor. Principles and techniques of gravity, seismic, magnetic and other geophysical methods for exploration of ores, petroleum, and other economic minerals. Mr. Jacken (Sp)

M136B. Geophysical Exploration. (Same as Geophysics and Planetary Physics M136B.) Prerequisite: Physics 6ABC, or 8ABC, Math 31C completed or consent of instructor. Principles and techniques of exploration for mineral deposits using natural and artificial electric and magnetic fields. Methods covered include self potential, induced polarization, electric, tellurics, electromagnetic, magnetotellurics. Mr. McPherron (W)

137. Petroleum Geology. Prerequisite: course 111ABC or 169 or consent of instructor. Geophysical and geochemical methods applied to exploration for and production of natural gas and petroleum; techniques of surface and subsurface geology; problems of petroleum geology. Mr. Johnson (Sp)

*138. Mining and Exploration Geology. Prerequisite: course 51C. Geologic principles applied to the exploration for and evaluation of mineral deposits; geological techniques at operating mines; mine economics; exploration geology and mineral resource economics. Mr. Watson

M139. Engineering and Environmental Geology. (Same as Architecture and Urban Planning M139.) Prerequisite: course 1 or 100; 111A recommended. Principles and practice of soil mechanics and foundation engineering in light of geologic conditions, recognition, prediction and control of subsidence, landslides, earthquakes, and other geologic aspects of urban planning and subsurface disposal of liquids and solid wastes. Mr. Moffit (F)

*140. Nonrenewable Resource Extraction. Prerequisite: course 128A or 128B or 138 or consent of instructor. The elements of mining and recovery of nonpetroleum mineral resources; associated geological and economic considerations for the resource management. The Staff

141. Sedimentology. Prerequisite: course 111B taken concurrently or consent of instructor. Characteristics of sediment particles, dynamics of sedimentary processes and process-significance of sedimentary features. Interpretation of depositional environments is strongly emphasized. Mr. Reed (W)

144. Marine Geology. Prerequisite: senior standing. Recent marine sedimentology, and geochemistry; oceanography morphology, structure and geologic history of the ocean basins. The Staff

*145. Advanced Oceanography. Prerequisite: course 15 or consent of instructor. Physical, chemical, geological, and biological environmental factors and their relationship to the distribution of marine organisms and community structure. The emphasis will be placed on changes in the marine environment during the last 600 million years.

150. Remote Sensing for Earth Sciences. Prerequisite: open to upper division and graduate students. Remote sensing related to the development of natural resource management. Characteristics of the electromagnetic spectrum and review of remote sensing devices. Applicability to land use classification, soil survey, urban studies, vegetation classification; emphasis on geologic interpretations of imagery. Mr. Sabins (W)

M154. Solar Terrestrial Physics. (Same as Atmospheric Sciences M154.) Prerequisite or consent current: Physics 110B. Particle and electromagnetic emissions from the sun under quiet and under disturbed conditions. The solar wind. The magnetosphere and the ionosphere of the earth and the auroras. Geomagnetic storms and cosmic rays. Mr. Venkatueswaran (F)

160. Astrogeology. Prerequisite: basic geology and calculus, or consent of instructor. Surface modification processes on the planets; meteorite impact and volcanic; field geology of exoplanetary environments; concepts of impact cratering and shock waves; volcanic landforms and processes; Lunar and Martian impact and volcanic features; field trip to Meteor Crater, Arizona. Mrs. Kieffer

169. Field Geophysics. Prerequisites: Physics 6ABC and Planetary Science M136A (can be taken concurrently). Application of seismic, gravimetric, magnetic, and other geophysical methods to geologic and engineering problems. Practical aspects of geophysical exploration including planning, data collection, data reduction, and interpretation. Field work on unsolved problems. Mr. McPherron (Sp)

190. Earth and Space Sciences Seminar. (% course) Prerequisite: junior or senior standing. Limited to undergraduate students who have made significant contributions to geologic research. To be given on a pass/not pass basis. May be repeated more than once for credit. Mr. Rosenfeld (F)

195G. Field Geology for Graduate Students. (% course) Prerequisite: consent of instructor. Geologic mapping report. Graded D/P/NP. Mr. Nelson, Mr. Reed (F)

199. Special Studies in Earth and Space Sciences (% to 2 courses) Students may be allowed to take course more than once for credit. The Staff

199H. Honors Research in Earth and Space Sciences. Prerequisite: senior standing and permission of the departmental honors committee. Individual research designed to broaden and deepen the student's knowledge of some phase of earth and space sciences. The Staff

200A. Introduction to Geophysics and Space Physics 1: The Solid Earth and Planets. Prerequisite: Physics 105A, 110A, 112A, or consent of instructor. Geoelectricity, geomagnetism, seismology, gravity, geodesy, heat transfer, thermal and chemical evolution of the mantle, the core, and geomagnetic and planetary interiors. Mr. Jackson (F)

200B. Introduction to Geophysics and Space Physics 2: Oceans and Atmospheres. Prerequisite: Physics 105A, 110A, 112A, 131 or consent of instructor. Evolution, chemistry, and heat balance of oceans and atmosphere. Mr. Jacken (F)

200C. Introduction to Geophysics and Space Physics 3: Plasmas: Aeronomy and the Interplanetary Medium. Prerequisite: Physics 105A, 110B, 112A, 131, or consent of instructor. Solar surface features, heating and expansion of corona, solar wind, plasma and magnetic fields, interplanetary medium and solar wind with the interplanetary phenomena. Mrs. Kivelson (Sp)


203. Electrodynamics. Prerequisite: upper division electromagnetic theory or consent of instructor. Maxwell's equations and boundary conditions; momentum, angular momentum and energy of electromagnetic fields; plane electromagnetic and magnetohydrodynamic waves; waveguides, simple radiating systems and diaphragms. Mr. Coleman (W)

*204. Advanced Remote Sensing. Theory of surface scattering and thermal emission; useful spectrall photometric and radiometric characteristics of natural materials; atmospheric and topographic effects, geologic, topographic, and climatic characteristics of specific terrain areas. Mr. Kieffer

205. Inverse Theory and Data Interpretation. Prerequisites: Math 115, Math 150. This course addresses the inverse modelling problem to determine model parameters consistent with experimental data by considering the nonlinearity and nonuniqueness. Linear and quasi-linear problems will be emphasized, but nonlinear problems will be discussed. Tools to be used include matrix theory, quadratic forms, orthogonality, 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)

210. Advanced Paleontology. Prerequisite: course 115 or advanced standing in biological science. Lectures will emphasize evolutionary, ecological, stratigraphic, and taxonomic aspects of fossil invertebrates. Field work will be applied to a research project and written report. Content will vary from year to year. May be repeated for credit. Mrs. Loeblich (Sp)

*212. Hydrodynamic Instabilities and Turbulence. (Same as Mathematics M263.) An introduction to the theories of hydrodynamic instability and the non-statistical description of turbulence; stability bounds by the method linear theory of instability; finite amplitude theories of most-in-stability flows; bounds on properties of turbulent flows by variational techniques. Mr. Busse

212. Paleoecology. Prerequisite: course 115 or advanced standing in biological science. How and where animals and plants lived in the past; study of habits and habitats of animals, changes in habits and habitats of animals, and the evolution of species through time and space. Content will vary from year to year. May be repeated for credit. The Staff

214. Geophysical Fluid Dynamics. Prerequisite: consent of instructor. Dynamics of stationary and time-dependent motions in the Ekman boundary layer theory; inertial oscillations; B-plane approximation; Rossby waves; theory of thermally induced motions; applications to flow phenomena in planetary atmospheres, in ocean, and in the earth's core. Mr. Loyd (F)

215. Paleobiology of Plant Microorganisms. Prerequisite: course 115 or advanced standing in biological science. Survey of morphology, evolution and diversification, environmental interactions, and stratigraphic and paleobiologic value of plant microorganisms. Emphasis on dinoflagellates and acritarchs, chrysomonads, silicoflagellates, ebridians and diatoms, coccolithophorids. (Alternate years with course 216.) Mr. Kieffer

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, dinoflagellates, ostracods, sponges and echinoderms. (Alternate years with course 215.) Mr. Loyd (F)


219. Planetary and Orbital Dynamics. Solar system dynamical evolution; figure and gravitational field of a planet; satellite orbits; earth-moon system
evolution; rotational dynamics, including effects of non-rigidity and energy dissipation. The Staff

*220. Principles of Paleobiology. Prerequisites: graduate standing in science; qualified undergraduate or junior standing in biological and physical sciences admitted with consent of instructor. Current problems in paleobiology, with emphasis on interdisciplinary problems involving aspects of biology, geology, organic geochemistry, and cosmochemistry. Geologic history from year to year. Course may be repeated for credit.

Mr. Schopf

222. Introduction to Seismology. Types of seismic waves; travel-time seismology; epicenter location; amplitude variations; seismograph theory; explosion seismology; seismic; focal conditions; surface wave analysis; microseisms. Mr. Knopoff (Sp)

*M224A. Elastic Wave Propagation I. Same as Engineering M225A.) Prerequisite: Engineering 158A or 159A or consent of instructor. Elastic wave equation and elementary solutions; vibrations in elastic half-spaces; reflection and refraction of elastic waves; surface waves; vibrations of rods and plates. Mr. Knopoff, Mr. Mal


Mr. Anderson (W)


Mrs. Kieffer

224A. Thermodynamic and Geometric Principles of Phase Equilibria. Prerequisites: course 51C, Chemistry 110B, or consent of instructor. Thermodynamic bases of phase transformations and of solution. Application of multicomponent systems using pressure, temperature, chemical potential, volume, and the fugacity of oxygen, water, and other volatile components as variable parameters. Mr. Boettcher

224B. Petrologic Phase Equilibria. Prerequisites: course 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

225A-225B-235C. Current Research in Geochemistry. (4 course each) Prerequisite: graduate standing in the Department of Earth and Space Sciences. Seminar for advanced and pre-doctoral students to be given by regular and pre-doctoral students. Preparation of term paper. (Offered every third year.) Mr. Shreve

227. Resource Evaluation Field Methods. Prerequisite: course 111B and 128A or 128B or 138 or consent of instructor. Techniques of mapping, sampling, appropriate laboratory studies, economic or socio-economic evaluation of a variety of non-renewable natural sources; preparation of reports. Mr. DePaolo (F)

228. Planetary Magnetism. Prerequisite or 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, and geohistory. Mr. Schubert (Sp)

*229. Planetary Surfaces and Atmospheres. Prerequisite: course 200A-200B. Study of planetary observations toward determining the evolutionary history and current active processes. Surface and atmosphere history and source; volatile budgets; conden- sation, sublimation, and cloud formation; erosional and depositional processes; diurnal, annual and secular variations. Current observations and theories will be critically discussed.

Mr. Kieffer

*230. X-Ray Crystallography. Prerequisite: course 51C, 124A, or 128A. Phase analysis, and space group determination. Deformation, orientation, and analytic methods to stress analysis. Applications of preferred orientation of minerals in tectonites. Mr. Dollase

*231. Crystal Chemistry and Structure of Minerals. Prerequisite: course 51C. Bonding, interatomic configurations, polyatomic transformations, isomorphism, thermal and positional disorder; survey of the structures of the common minerals, and relation of physical and chemical properties to crystal structure. (Alternates yearly with course 230.) Mr. Dollase

*232. Thermodynamics of Crystals. Prerequisites: Physics 225A, Geophysics and cosmodynamics (or some chemical quantum mechanics) and course 223; or consent of instructor. Application of fundamentals of methods for approximating lattice vibrational spectra. Calculation of thermodynamic functions of silicates. Interpretation of experimental data. Systematic variations in thermodynamic functions with crystal structure. Given alternate years. Mrs. Kieffer


Mr. Anderson (W)

*234A. Thermodynamic and Geometric Principles of Phase Equilibria. Prerequisites: course 51C, Chemistry 110B, or consent of instructor. Thermodynamic bases of phase transformations and of solution. Application of multicomponent systems using pressure, temperature, chemical potential, volume, and the fugacity of oxygen, water, and other volatile components as variable parameters. Mr. Boettcher

234B. Petrologic Phase Equilibria. Prerequisites: course 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

235A-235B-235C. Current Research in Geochemistry. (4 course each) Prerequisite: graduate standing in the Department of Earth and Space Sciences. Seminar for advanced and pre-doctoral students to be given by regular and pre-doctoral students. Preparation of term paper. (Offered every third year.) Mr. Shreve

236. Stress in the Lithosphere. Prerequisites: courses 202, or 245A or Engineering 108, or consent of instructor. Occurrence and classification of stresses; plate tectonics; fault plane solutions. Seismic stress drops; effects of erosion, cooling, earth ellipticity, topography, and density anomalies. State of stress in plate boundaries and interiors. Applications of finite element and analytical methods. Stress determination. Offered in alternate years. Mr. Bird (W)
among coexisting phases; other current subjects in the field. To be graded S/U or Letter Grade.

The Staff (F, Sp)

254. Seminar in Sedimentology. Processes of sediment transport and deposition; deep sea sediments; deltas and estuaries; petrology of carbonates, sandstones, and limestones; stratigraphy and paleoenvironmental studies. The Staff (F)

255. Seminar in Structural Geology and Tectonics. Flow and fracture in the earth's crust from microscopic to continental scale and in experiments. Examples may include metamorphic terranes, glaciers, plutons, volcanoes; and consolidated or unconsolidated sediments. Modern concepts of the oceanic basins; processes leading to segregation of continental-type rocks. Mr. Cretel (F)

*256. Seminar in Glaciology and Geomorphology. Glacier physics, theoretical geomorphology, river mechanics, statistical models. Mr. Shreve

257. Seminar in Paleontology. Current biogeographic literature and research on: evolution of selected groups of animals and plants, numerical taxonomy, origin and development of life, biostratigraphy, paleoecology, and biostatistics. Mr. Loeblich (F)

258. Seminar in Mineral Deposits. Problems of distribution, composition, and formation of mineral deposits; mineral economics; investigations of opaque minerals by microscopic or other techniques. Mr. Carlisle, Mr. Watson (W)

*259. Seminar in Advance Topics in Geology. Topics to vary. May be repeated for credit. Mr. Schopf

*260. Seminar in Geological Physics. Problems of current interest in geological physics, including topics related to impact cratering processes, mechanisms of volcanic eruptions, high pressure properties of materials, and thermodynamics of crystals. Mrs. Kieffer

261. Topics in Magnetospheric Plasma Physics. Lecture discussion of the exercises of specific, advanced topics in magnetospheric plasma physics. Previous courses have examined magnetic storms, magnetohydrodynamic substorms, ultra-low frequency waves and adiabatic particle motion in the earth's radiation belts. The Staff (W)

*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, eigen-analysis, and power spectrum. Mr. McPherron

*266. Cosmic Ray Physics. (Same as Astronomy M266.) Cosmic ray composition, origin, acceleration, propagation, interactions with interstellar matter, magnetic field and radiation field, role in interstellar heating, non-thermal galactic radio and galactic x- and gamma-radiation, interaction in the earth's atmosphere.

268. Seminar in Resource Analysis. Prerequisite: consent of instructor. Geological, geophysical, economic and technological factors in the study of optimum use of mineral and energy resources. Seminars will emphasize different mineral or energy resources. Because students must gain a thorough understanding of the resources, which cover the applied specializations in the discipline, the analytic core of the major in economics is closely structured. Some courses are appropriate for non-majors, but the curriculum is most suitable for students who wish to pursue graduate work. The Staff

297. Advanced Techniques in Geological Research. (4 to 1 course) Greaded S/U.

The Staff (F, W, Sp)

*1263. Seminar in Environmental Science and Engineering. Problems of current interest concerning the interaction of man, technology, and the environment, such as: regional water and energy allocation; earthquake mechanism; geochemistry of pollution; environmental fluid dynamics; environmental electronics; environmental geophysics. May be repeated for credit.

The Staff

*1284. Seminar in Mineral Physics and Rock Physics. (4 to 1 course) Prerequisite: courses 233 or 234A. Seminar for students interested in rock physics, mineral physics, and aspects of seismology and petrology. Registered students will present seminars in their research topics. The topics covered will be equations of state, acoustic properties of minerals, properties of the earth's deep mantle and core, compression of porous aggregates, fracture dynamics, lattice dynamics of low symmetry crystals, laboratory analogs of earthquakes.

Mr. Anderson

M285. Origin and Evolution of the Solar System. (Same as Astronomy M285.) Dynamical problems of the solar system; chemical evidences from geochemistry, meteorites, and the solar atmosphere; nucleosynthesis; theory of the origin, evolution and termination; solar nebula; hydrodynamic processes, formation of the planets and satellite systems. Content will vary from year to year. May be repeated for credit. Graded S/U.

Mr. Kaula (F)

268A-285B-286C. Seminar in Planetology. (1 course) Topics to vary. May be repeated for credit. Mrs. Anderson

1286. Seminar in Paleontology. (Same as Biology M1286.) Processes of current interest in seismology and the earth's interior. To be graded S/U only. May be repeated for credit.

The Staff (F, W, Sp)

287A-287B-287C. Seminar in Seismology and the Earth's Interior. (1 course each) Problems of current interest in seismology and the earth's interior. To be graded S/U only. May be repeated for credit.

The Staff (F, W, Sp)

288A-288B-288C. Seminar in Space Physics. (1 course each) Problems of current interest concerning particles and field in space. To be graded S/U only. May be repeated for credit.

The Staff (F, W, Sp)

289A-289B-289C. Seminar in Fluid Dynamics. (1 course each) Problems of current interest in fluid dynamics with emphasis on geophysical applications. To be graded S/U only. May be repeated for credit.

The Staff (F, W, Sp)

290. Seminar in Time Series Analysis. (1 course) Discussion of recent research in spectral estimation, filtering, and signal detection applied to geophysical problems. To be graded S/U only. May be repeated for credit.

Mr. Jackson (Sp)

*295. Earth and Space Sciences Colloquium. (4 to 1 course) Reading and discussion in the literature in the earth and space sciences. The Staff

297. Advanced Techniques in Geological Research. (4 to 1 course) graded S/U.

The Staff (F, W, Sp)

*298. Advanced Topics in Earth and Space Sciences. (4 to 2 courses) To be graded S/U only. May be repeated for credit. The Staff

501. Cooperative Program. (1 to 2 courses) Prerequisites: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus Instructor. Department Chairmen and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

596. Directed Individual Study and/or Research. (4 to 3 courses) S/U or Letter Grade. The Staff

597. Preparation for Master's Comprehensive Examination or Final Examination. (1 to 2 courses) To be graded S/U.

The Staff

598. Master's Research and Thesis Preparation. (1 to 3 courses) To be graded S/U.

599. Doctoral Research and Dissertation Preparation. (1 to 3 courses) To be graded S/U. The Staff

NOTE: For key to symbols, see page 74

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ECONOMICS

(Department Office, 2263 Bunche Hall)

Armen A. Achian, Ph.D., Professor of Economics.
William R. Allen, Ph.D., Professor of Economics.
Robert W. Clowser, D. Litt. (OXON.), Professor of Economics.
Michael R. Darby, Ph.D., Professor of Economics.
Harold Demsetz, Ph.D., Professor of Economics.
George W. Hilton, Ph.D., Professor of Economics.
Werner Z. Hirsch, Ph.D., Professor of Economics.
Jack Hirschbrick, Ph.D., Professor of Economics.
Michael D. Intriligator, Ph.D., Professor of Economics.
Benjamin Klein, Ph.D., Professor of Economics.
Edward E. Learner, Ph.D., Professor of Economics.
Harold M. Somers, Ph.D., LL.B., Professor of Economics.
Thomas Swall, Ph.D., Professor of Economics.
Earl L. Thompson, Ph.D., Professor of Economics.
Finnis K. Welch, Ph.D., Professor of Economics.
John F. Barron, Ph.D., Emeritus Professor of Economics.
Paul A. Dodd, Ph.D., LL.D., Emeritus Professor of Economics.
Earl L. Miller, Ph.D., LL.B., Emeritus Professor of Economics.
Dudley F. Pogrum, Ph.D., Emeritus Professor of Economics.
Yung-Ting Chen, Ph.D., Associate Professor of Economics.
Bryan C. Ellickson, Ph.D., Associate Professor of Economics.
Bruce Herrick, Ph.D., Associate Professor of Economics.
Cotton M. Lindsay, Ph.D., Associate Professor of Economics.
George S. Murphy, Ph.D., Associate Professor of Economics.
Joseph M. Ostroz, Ph.D., Associate Professor of Economics.
John G. Riley, Ph.D., Associate Professor of Economics.
Robert F. Cotterman, Ph.D., Professor of Economics.
Rodney L. Jacobs, Ph.D., Assistant Professor of Economics.
Robert Jones, Ph.D., Assistant Professor of Economics.

Joel M. Guttman, Ph.D., Lecturer in Economics.

Objective of the Major in Economics

The undergraduate program in economics is designed for students who wish to gain a thorough understanding of economic analysis. Emphasis is on economic principles, the development of interpersonal conflicts of interest and the coordination of productive activity in a world of scarce resources. Because students must gain a thorough understanding of economics, courses are available for non-majors who wish to pursue graduate work. The Staff

Preparation for the Major

Required: Economics 1, 2, 40 (or Management 115 as a substitute for Economics 40); four lower or upper division economics courses in the social sciences other than economics, which may be taken pass/fail, and one course in calculus (e.g., Mathematics 3A, 4A, or 3A, which may be taken pass/fail.) The student should complete the calculus requirement before taking upper division courses.

The honors sequence in theory (101AH, 101BH, and 102H) requires 2 courses in calculus. Upon petition, Economics 100 may be substituted for Economics 1 and may be taken pass/fail. Those who wish additional work in economics or in closely related fields while still in lower division standing may take Economics 10 and Management 1A and 1B.

The Major

Nine upper division courses in economics, which must include: Economics 101A, 101B, and at least one course in each of three fields in economics chosen from the list below. It is preferable for the student to complete Economics 101A, 101B, and 102
MAJOR IN ECONOMICS-SYSTEM SCIENCE

This major is an alternative to the regular departmental major in Economics, and combines work in the Department of System Science (School of Engineering and Applied Science) with preparation in economics theory and in those aspects of mathematics and statistics that are necessary for the study of quantitative aspects of economics and system theory. The major is appropriate for students who plan graduate study with emphasis on such fields as econometrics, feedback and control systems, economic theory, mathematical economics, and operations research, or on such courses in System Science, and two courses in mathematics, 150B, 152A, at least one from each area as required by the department, and the courses toward the major. A grade point deficiency in economics courses cannot be offset by grade point deficiencies in management courses. Upon consent of the chairman, graduate students may take an upper division course for which they do not have prerequisites.

Preparation for the Major. Economics 1 and 2; Engineering 10C; Mathematics 31A, 31B, 31C, 32A, 32B, 32C, 60.

The Major. Fourteen upper-division courses are required, consisting of six courses in Economics, six courses in System Science, and two courses in Mathematics. Selections must include: Economics 101A, 101B, 102, and one from Economics 144, 145, 146, 147; Engineering 128A, 129A, and one from Engineering 121C, 122A, 122B, 127B; Engineering 129A, Mathematics 150A, or 152A; at least one from Engineering 120B, Engineering M120C; Mathematics M151, Mathematics 150B, 152B. System Science selections are made from courses numbered Engineering 120, 120A, 120B, 120C, 121C, 128A, 128B, 128D, 128L, 129A, 127A.

For the purposes of the College breadth requirement, this major is considered to be in the division of Physical Sciences. Economics-System Science majors may not offer courses in Economics as baccalaureate-level courses.

The major is administered by an interdepartmental committee of six faculty members, three from Economics and three from System Science.

For further information, please contact Committee Chairman M. Aoki of System Science, or Department Chairmen J. L. Forrester of Economics and J. W. Carlyle of System Science.

Fields for the Major

Economic Theory (courses 101A-101B, 102, 106, 107);

Economic Development (courses 110, 111, 112);

Regional Economics (courses 120, 121); Public Finance (courses 130, 131, 132, 133); Statistics, Mathematical Economics, and Econometrics (courses 141, 144, 145, 146, 147, 148); Mathematics (courses 150, 152A);

Money and Banking (courses 160, 161), Government and Industry (courses 170, 171, 172, 175); Economic Institutions (courses 180, 181, 182, 183); International Economics (courses 190, 191, 192).

Undergraduate Advising

There is an undergraduate advising office located in 2253 Bunche Hall. The adviser is available for consultation on matters relating to curriculum and major requirements, course evaluations, special programs, and career planning.

The Graduate Program

The Economics Department offers a broad selection of graduate courses, which are designed primarily for Ph.D. candidates. However, they are also open to candidates for the M.A. degree.

All applicants for graduate study who satisfy the University requirements for admission must submit a full record of prior university experience, three letters of recommendation and their scores in the Graduate Record Examinations. Applicants who have studied in U.S. schools are required to take both the aptitude (verbal and quantitative) and advanced economics tests. Foreign applicants must take the former.

Selection of students is based on the above information. Identical criteria apply to candidates for either the M.A. or the Ph.D. degree.

Requirements for the M.A. Degree

Candidates for the degree of Master of Arts in Economics normally have completed the equivalent of an undergraduate major in economics. In addition to the general University requirements (see University Minimum Standards), the departmental requirements are nine upper division and graduate level courses in economics, all of which must be passed with a grade of at least C. Graduate level courses in economic theory and the history of economic theory may, of course, be substituted for these undergraduate courses. At least five of the nine courses must be strictly graduate courses.

For the purposes of the M.A. degree only, the two graduate theory sequences (Microtheory and Macrotheory) each count as two-thirds of a "field" and the sequence in Quantitative Methods one-third of a "field". Thus, students are required to take the qualifying examinations in at least one and two-thirds "fields," so defined, and achieve a Satisfactory grade (S) in at least one examination and Conditional (C) grades elsewhere. A student achieving an average of 2.0 in the Quantitative Methods Sequence automatically receives an S grade. For example, a student might achieve an S in the Microtheory qualifying examination and a C in the Macrotheory qualifying examination or of the doctoral level fields other than Theory or Quantitative Methods.

As another example, a student might take Microtheory, Macrotheory, and Quantitative Methods and achieve one S, two C's and one S.

With the exception of the graduate adviser candidates, may offer a maximum of two courses of acceptable upper division and/or graduate courses in other social sciences, history, management, mathematics, psychology, education, or philosophy in partial fulfillment of the degree requirements. This will not, however, relieve the student from taking five graduate courses in the Department of Economics.

Students are required to complete or have previously completed three courses in mathematics and statistics consisting of 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.

The Ph.D. Program

Students admitted to the graduate program are all potential candidates for the Ph.D. degree. During the first year it is customary to take the three-quarter Microtheory sequence (201ABC), the three-quarter Macrotheory sequence (202ABC), the three-quarter Quantitative Methods sequence (246ABC). However, students with a strong undergraduate background in calculus and with a sound knowledge of basic econometric methods are encouraged to take the Econometrics sequence in place of Quantitative Methods.

Either in the Spring of the first year or the Fall following the first-year courses, students take the Theory Comprehensive Examination. During their second year, students select three areas of study in preparation for three field qualifying exams. Course work for these courses must be taken in the third year, at which time students begin work on their dissertation research. It is usual to enroll also in one of the graduate workshops. The latter provide an opportunity for students to participate in discussions of current research by visiting professors, the faculty and, most importantly, their own classmates. All third year students are expected to choose some forum, either a workshop or class seminar, in which to present their preliminary research progress.

While a few students finish a dissertation by the end of the third year it is normal for the main development to be completed during the fourth year.

Written and oral qualifying examinations and other requirements

All doctoral candidates are expected to take the Theory Comprehensive Examination following their first year in the graduate program. In addition, there is a Graduate Research Requirements which may be satisfied either by achieving a B+ average in 246B or 246C or passing the Qualitative Methods Waiver Examination (administered at the beginning of fall quarter) or achieving a B average in at least two quarters of the advanced econometrics sequence (247 248 249).

Doctoral candidates are also required to have taken at least one quarter course in (a) either U.S. or European economic history (with grade B or better) and (b) history of economic theory (with grade C or better).

To gain admission to candidacy and to become eligible for the Candidate in Philosophy (C. Phil.) degree, graduate students shall pass further written and oral examinations. These examinations will cover three fields in economics, beyond the theory and quantitative methods areas already mentioned. A student, upon petition, may substitute a "special field" for one of the three elective fields. That is, at the instructor's and the approval of the Chairman of the Graduate Committee, a student may combine three related courses (not necessarily in the department) into a field, e.g., Econom. 245A, 241A, and 241B. Overall evaluation of the student's performance in the field is determined by the instructors, who will consider the three course grades and a related paper which must be completed not later than one year after beginning the sequence. The paper becomes a part of the student's official record. The written examinations are offered twice a year, near the beginning of the fall quarter and near the end of the spring quarter.

Written examinations are graded S (satisfactory pass), C (conditional pass), and U (unsatisfactory). A student is considered to have completed his theory and elective field written examinations if he has earned three S grades and one C. A student cannot be advanced to candidacy with more than one conditional grade on his/her record. Students may take no more than six exams in the following four fields. Theory and Elective

An oral qualifying examination, administered by the Doctoral Committee which is approved by the Dean of the Graduate Division, will be scheduled only after the successful completion of all the written examinations and other basic requirements and on the submission of a written dissertation proposal. The oral examination will focus on, but is not limited to, the dissertation proposal.

Foreign language requirement. Ph.D. candidates must offer one foreign language or a substitute program in mathematics. If the language option is chosen, the student will be required to show a proficiency in one language — French, German, Russian, or Spanish — by passing the ETS examination with a grade of 500 or better. If the mathematics substitute is chosen, a student must show proficiency in mathematics above that ordinarily required of Ph.D. candidates. Since elementary calculus is, as noted above, common to all econometricists, the three required language-substitute courses must be at a level above first-year calculus. Courses in intermediate and advanced calculus, linear algebra, differential equations, and advanced high school and other graduate courses may fulfill the spirit of the requirement. Specifically, the courses in UCLA Mathematics Department numbered 32 and 110 or above fulfill the requirement.
Lower Division Courses

1. Principles of Economics. Lecture, three hours; discussion, one hour. Not open to students with credit for Economics 101A. 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 Economics 100. An introduction to the principles of economic analysis, economic institutions, and issues of economic policy. Emphasis on aggregative economics, including national income, money, monetary and fiscal policy, and international trade.

The Staff

3. Lower Division Research Seminar in Micro Economics. Prerequisite: course 1. Class enrollment limited to ten non-senior, non-freshmen students. Seminar in which students do an intensive research project under guidance of regular faculty. Student selects topic in consultation with instructor, subject limited to materials covered in Economics 1. Student writes paper and presents to seminar.

The Staff

4. Lower Division Research Seminar in Macro Economics. Prerequisite: course 2. Class enrollment limited to ten freshman or sophomore students. Seminar in which students do an intensive research project under guidance of regular faculty. Student selects topic in consultation with instructor, subject limited to material covered in Economics 2. Student writes paper and presents to seminar.

The Staff

10. Evolution of Economic Institutions in America. Not open to students with credit for course 183. The historical development of the present American economic system and its performance over time, especially as revealed by the economic problems of the modern research. 

The Staff

40. Introduction to Statistical Methods. (Formerly numbered 140.) Not open to students with credit for Mathematics 50A, 50B, 150A-150B-150C, 152A-152B, or Management 115. Elements of statistical analysis. Presentation and interpretation of data; descriptive statistics; theory of probability and basic sampling distributions; statistical inference, including principles of estimation and tests of hypotheses; introduction to regression and correlation.

The Staff

Upper Division Courses

Courses 1 and 2 or 101B are prerequisite to upper division courses in economics.

100. Economic Principles and Problems. Not open to students with credit for 1 or 2. Under special circumstances, with the consent of the instructor, students who have not passed the examination may be permitted to substitute 100 for 1 and 2 by petition. One-quarter course presenting the principles of economics with applications to current economic problems.

The Staff

101A. Micro Economic 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. Lindsay, Mr. Ostroy

102. Macroeconomic Theory. Prerequisite: one course in calculus or consent of instructor. Theory of income, employment, and the price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy.

Mr. Clower, Mr. Durlay, Mr. Jones

Honors Sequence


101AH. Prerequisites: two courses in calculus and completion of Economics 1 and 2 or 100 or consent of instructor. The laws of demand, supply, returns, and costs; price and output determination in different market situations. Enrollments by consent of instructor.

The Staff

101BH. Prerequisites: course 101AH or consent of instructor. Theory of factor pricing and income distribution; general equilibrium implications of the pricing process for the optimum allocation of resources; interest and capital. Enrollments by consent of instructor.

The Staff

102H. Macroeconomic Theory. Prerequisites: courses 101AH and 101BH or consent of instructor. Theory of income, employment, and the price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy.

The Staff

103. Upper Division Research Seminar: Application of Economic Theory. Prerequisites: courses 101A-101B, 102. Consent of instructor. A limited enrollment seminar in which the student writes a research paper on a topic chosen in consultation with the instructor.

The Staff

106. Economic History of American Ethnic Groups. Prerequisite: course 101A. A critical analysis of variables affecting the income, occupations, and general economic progress of American ethnic groups. Such ethnic characters ad demographic profile, regional distribution, skill level, and size of community will be considered, together with the impact of various historical events on the eventually discrimination and public policy.

Mr. Sowell

107. History of Economic Theory. A survey of economic analysis from Grecian antiquity to the early 20th century, concentrating on the 18th and 19th centuries; special attention to selected writers, individuals, and schools, including the Mercantilists, the Physiocrats, Hume, Smith, Malthus, Ricardo, Marx, Marginalists, and Marshall.

Mr. Allen, Mr. Sowell

110. Economic Problems of Underdeveloped Countries. A survey of the major issues of development economics. Economic structure of low income countries and primary causes for their limited economic growth. Economic goals and policy alternatives open to their leaders. Possible roles of developed countries. Selected case studies.

Mr. Herrick

111. Theories of Economic Growth and Development. Growth models, theory of production under constraints, relative factor prices and their impact on economic growth, investment criteria, role of the market, economic planning in less developed areas.

Mr. Herrick

112. Policies for Economic Development. Prerequisite: course 111 or 102. Suggested strategies for economic development: inflation, balanced growth, industrial policies, agriculture, import substitution, export oriented expansion, foreign aid, and others will be considered. Selected case studies.

Mr. Herrick

120. Introduction to Urban and Regional Economics. Prerequisite: course 101A or consent of instructor. Economic analysis as applied to significant current regional and urban problems and policy.

Mr. Ellickson, Mr. Hirsch

121. Urban Economic Analysis. Prerequisite: courses 120, 101A-101B, or consent of instructor. Demand and supply of urban public services; transportation and location decisions and urban human resources analysis.

Mr. Ellickson, Mr. Hirsch

130. Public Finance. Prerequisite: courses 101A and 101B or consent of instructor. Continuation of organization of economic activity by government and by the private sector. Analysis of alternative norms for governmental activity. Methods of assessing benefits of alternative programs, transfers, and shifts, and the allocation of targets 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 policies.

Mr. Chen, Mr. Lindsay

131. Nonproprietary Organization. Prerequisite: courses 101A, 101B, completion of math requirement for the major. Use of economic techniques to study behavior of nonproprietary institutions such as government, cooperatives, unions, nonprofit firms, etc. Attention paid to behavior within these organizations as well as aggregates characterizing actions of the organization itself. Models of political behavior, and effects of decision rules and other political outcomes studied.

Mr. Chen

133. State and Local Finance. Prerequisite: course 130. The division of functions and revenues between state and local governments, the revenue and expenditure decisions, and indebtedness of these governments. Analyses of state and local tax systems.

Mr. Hirsch

135. Economic Models of the Political Process. (Same as Political Science M 103.) Prerequisites: Economics 101A and a basic course in Political Science and junior-senior status. This seminar is jointly offered by Economics and Political Science Departments, and permission of the instructor is required. The course examines the conceptual foundations 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 political behavior.

141. Principles of Statistical Decision. Prerequisite: course 40 or equivalent. Errors of the first and second kind; economic loss functions; prior probabilities and Bayes' Theorem. Analysis of classical and Bayesian approaches. Application to inventory and production problems. The value of information, and implications for sampling design.

Mr. Ellickson, Mr. Hirshleifer, Mr. McCall

144. Introduction to Mathematical Methods in Economics. (Formerly numbered 145.) Prerequisite: courses 101A, 101B and two courses in calculus. An introduction to the use of calculus in economic analysis. Topics covered include partial differentiation, optimization, integration and differentiation, and differential 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 (formerly numbered 145). Development of course description should be approved by the instructor. Possible topics include: theory of economic growth; competitive equilibrium analysis; examination of market failure and the role for direct intervention.

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 economics.

Mr. Ellickson, Mr. Intriligator, Mr. Riley

NOTE: For key to symbols, see page 74

Mr. Demsetz, Mr. Hirsch

175. Economics of Transportation. The economic characteristics of transport; the functions of the different agencies; pricing and resource allocation in transport; public regulation of transport; urban transport; the modern transport problem.

Mr. Hilton

180. Comparative Economic Systems. Prerequisite: course 101A. An analysis of capitalist and planned economies as exemplified by the United States, Soviet Union, Great Britain, etc. Alternative systems are compared with respect to the economic goals, theories of economic organization, institutions, and developmental processes. Problems of economic planning are emphasized. Mr. Murphy


Mr. Leijonhufvud

182. Economic Problems of the U.S.S.R. An introduction to the organization and policies of the economy of the U.S.S.R.

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. Murphy

190. International Economics. Not open to students with credit for courses 101 or 102. A general introduction to international economics, based upon an examination of the theory of trade and the means and significance of balance of payments adjustments, with analysis of major issues of international commercial policy, and international control over the balance of payments.

Mr. Murphy

191. International Trade Theory. Prerequisite: course 101B. Not open to students with credit for course 10. 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. Leimer

192. International Finance. Prerequisite: course 101B. Not open to students with credit for course 10. Emphasis on the interpretation of the balance of payments and the adjustment to national and international equilibria, through changes in price levels, exchange rates, and national income. Other topics include: making international payments, determination of exchange rates under various monetary standards, capital movements, exchange controls, and international monetary organization.

Mr. Allen

193. Special Studies in Economics. (1 to 1 course) Prerequisite: senior standing and consent of the instructor. A student may count this course only once in satisfying his major in economics; he may take it a second time to meet University graduation requirements.

Graduate Courses


Mr. Herrick

201A. Theory of Consumption and Exchange. Mr. Alchian, Mr. Hirshleifer

201B. Theory of Production and Distribution. Mr. Alchian, Mr. Hirshleifer, Mr. Welch

201C. Theory of Interest and Capital. Mr. Alchian, Mr. Hirshleifer


Mr. Darby, Mr. Leijonhufvud


Mr. Darby, Mr. Leijonhufvud


Mr. Darby, Mr. Leijonhufvud

M203A. Economics of Decision. (Same as Management M203A.) Prerequisites: courses 40, 101B, 102 and calculus.

The Staff

M203B. Economics of Information. (Same as Management M203B.) Prerequisites: courses 40, 101B, 102 and calculus.

The Staff

M203C. Economics of Organization. (Same as Management M203C.) Prerequisite: course M203A. Prerequisites: courses 40, 101B, 102 and calculus.

The Staff

204A-204B. Applications of Economic Theory. The Staff

207. History of Economic Theory. Mr. Allen, Mr. Sowell

211. Economic Growth: Measurement and Theory. Mr. Herrick

212. Economic Development of Underdeveloped Areas: Theory and Policy. Mr. Herrick

213. Selected Problems of Underdeveloped Areas. Mr. Herrick and the Staff

221. Urban and Regional Economic Analysis I. Mr. Herrick

222. Urban and Regional Economic Analysis II. Mr. Ellickson, Mr. Hirsch

231. Public Finance. Mr. Chen, Mr. Lindsay, Mr. Somers

232. Economics of Government Expenditures. Mr. Chen, Mr. Lindsay, Mr. Somers

234. Economics of Federalism. Mr. Thompson

M240. Control and Coordination in Economics. (Same as System Science M222G.) (Formerly numbered Engineering M222G.) Prerequisite: graduate standing in Economics or Engineering, consent of instructor. Appropriate mathematics courses recommended. Stabilization policies, short- and long-run dynamics and stability analysis; decentralization, coordination in teams; certainty equivalence and separation theorems; stochastic and learning models. Bayesian approach to price and output rate adjustment.

241A-241B. Probabilistic Economics. Prerequisites: course 101B. Probability, calculus and introductory probability. 241A will cover those concepts in probability theory and optimization that have been widely used in the economics of uncertainty. 241B will present a survey of the recent literature in probabilistic economics, with special emphasis on information and the economics of search, optimal production under uncertainty and models of stock market behavior.

Mr. McCall


Mr. Intriligator, Mr. Ostrov, Mr. Riley

244. Mathematical Analysis in Economic Theory. Review of vectors, matrices and univariate calculus. Multivariate calculus, constrained optimization. Emphasis on learning to apply optimization techniques in economic analysis. Economic topics discussed include: Pareto-optimality, the Coase theorem, net and gross substitues, peak load pricing, and an introduction to general equilibrium.

Mr. Riley

245A-245B-245C. Advanced Theory and Mathematical Economics. Prerequisites: course 201C or its equivalent elsewhere or consent of instructor. Selected advanced theoretical topics of current interest and an introduction to modern mathematical economics (including general equilibrium theory).

Mr. Intriligator, Mr. Ostrov, Mr. Riley
281. Evolution of Economic Institutions in Western Europe. Prerequisite: graduate status or Western Europe.

282. Soviet Economic Theory and Organization. Mr. Murphy

283. Evolution of Economic Institutions in the United States. Mr. Murphy

291. International Trade Theory. Mr. Learner

292. International Finance. Mr. Allen

293. International Economics: Selected Topics. Mr. Allen, Mr. Leiner

299. Dissertation Research Seminar in Economics. Prerequisite: Advancement to doctoral candidacy. Discussion of research topics and results by dissertation writers and their supervisors. May be taken more than once for credit. The Staff

401. The Teaching of Economics 1. (4 course) Prerequisite: enrollment will generally be 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 material, etc., and visits of instructor to the sections of each teaching assistant. S/U grading only. The 2 units of credit will not count towards degree requirements. Student may receive credit no more than twice for the course.

The Staff

402. The Teaching of Economics 2. (4 course) Prerequisite: enrollment will generally be 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 material, etc., and visits of instructor to the sections of each teaching assistant. S/U grading only. The 2 units of credit will not count towards degree requirements. Student may receive credit no more than twice for the course.

The Staff

596. Individual Study. (4 to 2 courses) Directed individual study or research. The Staff

597. Individual Study: Graduate Examinations. (4 to 2 courses) Directed individual study in preparation for the M.A. comprehensive examination or the Ph.D. qualifying examination. The Staff

598. Individual Research: M.A. Thesis. (4 to 2 courses) Directed individual research in preparation for M.A. thesis. The Staff


BUSINESS-ECONOMICS EDUCATION

Lawrence W. Erickson, Ed.D., Professor of Education (Advisor for Major, 248 Moore Hall).

Students wishing to prepare for teaching in the field of business-economics education should plan to complete the business-economics major shown below:

Business-Economics Major for Business Teachers

This major has been designed in accordance with the State law governing the Single Subject (Secondary) Teaching Credential with a Specialization in Business-Economics concurrent MA-JD program.

Lower Division Requirements. (1) Mathematics: Demonstrate proficiency in mathematics through college algebra (1A) or 2A, or 3A, or 3B (less than three years of high school mathematics); (2) English and speech: English 3 (or proficiency examination in addition to Subject A examination) and Speech 1; (3) American History and Institutions; (4) Breadth Requirements: Satisfy breadth requirements of College of Letters and Science.

Preparation for Major. Economics 1, 2, Management 1A, 1B; one course in Calculus (e.g., Mathematics 4A, 3A, or 31A), which may be taken pass/fail.

Upper Division Requirements. (1) Economics 101A, 101B, 102, 160; three courses from Economics 107, 130, 150, 170, 180, 190; (2) Management 108, 109, 113A, 115A or Economics 40; Management 120, 130; three courses from Management 113B, 122, 135, 160, 180 or 218A, 190.

Graduate Division

Students in business-economics education may earn the following graduate degrees: Master of Business Administration or Doctor of Philosophy in the School of Management; Master of Education, Master of Arts, Doctor of Education or Doctor of Philosophy in the Graduate School of Education. For further information see the Announcement of the Graduate School of Management, the Announcement of the Graduate School of Education, and the announcement of the Graduate Division, Graduate Study at UCLA.

Requirements for Teaching Credentials

Students may earn credentials for teaching business, mathematics, and other subjects in California elementary and secondary schools. Consult with the Graduate School of Education (201 Moore Hall) for information.

Upper Division Course

199. Special Studies. (4 to 1 course) Prerequisites: senior standing and consent of the instructor. The Staff

Professional Course

596. Independent Study in Business Education. (4 to 1 course) The Staff

Related Courses in Other Departments

337A. The Curriculum in Business Education. Mr. Erickson

337B. The Teaching of Secretarial Subjects. Mr. Erickson

337C. The Teaching of Bookkeeping, General Business, and Economics. Mr. Erickson

EDUCATION

(Department Office, 244 Moore Hall)

Marvin C. Alkin, Ed.D., Professor of Education

Carla Womberg, Ed.D., Professor of Education

Helen S. Astin, Ph.D., Professor of Education

Eva L. Baker, Ed.D., Professor of Education

James W. Goodlad, Ph.D., L.H.D., Professor of Education

Arthur M. Cohen, Ph.D., Professor of Education

Sno Cohen, Ph.D., Professor of Education

Charlotte A. Crabtree, Ph.D., Professor of Education and Associate Director of the University Elementary School (Chairman of the Department)

Lawrence W. Erickson, Ed.D., Professor of Education

Norma I. Fidbach, Ph.D., Professor of Education

Clarence Ferro, Ph.D., Professor of Education

John D. McNeil, Ed.D., Professor of Education

S. Allen Knight, Ph.D., Professor of Education

Rodney W. Skager, Ph.D., Professor of Education

Melvin L. Barlow, Ed.D., Professor of Education

Charles Z. Wilson, Ph.D., Professor of Education

NOTE: For key to symbols, see page 74
ed.
203. Educational Anthropology. Prerequisite: Anthropology 22 recommended. Study of education through field research method of cultural anthropologist. Independence of culture and education with emphasis placed on cross-cultural studies of enculturation, schooling, values, cognition, language, and cultural change. Mr. LaBelle

207. Politics and Education. Course explores the political dimensions of both formal and nonformal educational enterprises in a national and international perspective. Political theory will be explored in the context of such educational enterprises as policy formation, pressure groups, and public and private elites. Mr. Cheng, Mr. Hawkins and Staff

208A. Perspectives on the Sociology of Education. Designed to introduce students to sociological perspectives of social scientists in educational policy and practice. Issues addressed include desegregation, decentralization, equality of educational opportunity, structure of educational organization, teacher-student relationships, reform in education at the elementary, secondary, post-secondary levels. Mr. Gordon, Mr. O'Shea, Ms. Wrigley

208B. Issues in Education: Sociological Perspectives. Prerequisite: course 208A or the 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

252A. Seminar: Educational Organizations. Prerequisite: course 208A or consent of the instructor. Mr. Gordon, Ms. O'Shea, Ms. Wrigley

252B. Seminar: Education and Social Change. Prerequisite: course 208A or consent of instructor. Mr. LaBelle, Mr. O'Shea

275. Seminar: School Desegregation. Prerequisite: consent of the instructor. Analysis of the social/political response to desegregation programs in Northern and Southern schools in educational policy and practice. Issues addressed include court decisions and development of legal policy on school desegregation. Consideration of effects of integration on school achievement and interracial attitudes. Ms. Wrigley

AREA II: EDUCATIONAL PSYCHOLOGY

Fields of Specialization:

Counseling

Early Childhood Development

Learning and Instruction

Research Methods and Evaluation

Special Education

COUNSELING

213A. Fundamentals of Student Personnel Work. Prerequisite: graduate student or consent of the instructor. Analysis and in-class application of student and pupil personnel service methods, with emphasis on task groups and evaluation. Ms. 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. Prerequisite: concept of cognitive psychology as related to the non-academic problems students 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. Prerequisite: limited to candidates for advanced degrees whose major interest is counseling, and to selected high school and college counselors. Counseling procedures, educational planning, and methods for helping students handle personal problems that interfere with school progress; critical evaluation of procedures. Mr. Sorenson

214D. Vocational Guidance. Depth study of current interests and needs in vocational guidance; principles, problems, and practices of vocational guidance. Mr. Berry, Mr. Healy

216. Counseling in the Urban School and Community. Prerequisite: course 213A or 214A and consent of the instructor. Research related to the psychological, educational, and sociological characteristics of urban students and the implications for counselor models. Emphasis on counseling procedures through practice-technique experiences dealing with school and community groups will be systematically covered. Mr. Berry

257. Seminar: Pupil Personnel Services. Mr. Berry, Mr. Healy, Ms. Tidwell

413A-413B-413C. Internship in School Psychology. Prerequisite: consent of the instructor; courses 413A-413B-413C must be completed in three consecutive quarters; limited to students enrolled in the Counseling specialization. Two class hours, sixteen hours of field experience. Work with students in public schools or comparable setting dealing with such problems as diagnosis, counseling, and counseling through social work in school and community agencies; supervision of interns. Mr. Healy, Ms. Tidwell

415A. The Appraisal of Intelligence. Prerequisites: courses 210A and 211A. Concepts and principles leading to development of individual cognitive assessment instruments; issues and implications relating to the application and current practices of utilizing such tests in a multi-cultural society. Laboratory experience includes administration and interpretation of standardized tests; case studies. Mr. Healy, Ms. Tidwell

415B. Human Appraisal in School Counseling and School Psychology. Prerequisites: course 415A and consent of the instructor. Survey and demonstration of the major techniques of cognitive, affective and achievement appraisal and their applicability to problems found in the school setting. Research and theoretical issues concerning with appraisal will also be discussed. Ms. Tidwell

NOTE: For key to symbols, see page 74

EDUCATION / 143

EARLY CHILDHOOD DEVELOPMENT

217A. Child Development and the Educational Process. Biological, social, familial, school, and environmental influences on the child: development in the context of current research and theoretical models; consideration of theoretical and methodological approaches to research on family and school influences on educational development and research to educational practice. Ms. Stipek, Ms. Takanishi

217B. Intellectual Development and School Performance. Prerequisite: course 217A or equivalent. Developmental, behavioral, environmental, and methodological approaches to the study of intellectual functioning and educational performance in preschool and school children. Ms. Stipek

M217C. Personality Development and Motivation in Education. (Same as Psychology M245) Personality development and environmental conditions which form motivational patterns; self-concept, moral behavior, aggression, creativity, sex differences, empathy, research and personality theory bearing on motivational problems in school settings and curricula development. Ms. Feshbach

217D. Language Development and Education. Research and theory on how children develop their first language. Sociolinguistic and psycholinguistic issues in preschool and primary years. Bilingual and dialectal issues. Mr. Stipek

217E. Developmental Problems in Early Childhood. Prerequisite: two core courses in development and learning. Problems of atypical development during early childhood viewed from an interactional position which has significance for later learning and education. Topics include early identification; implications for school learning; impact of disability on parent-child interactions; and early intervention programs. Ms. Keogh

217F. Human Development and the Educational Process. Learning and cognitive development, personality and value systems, and the socialization of young children. Critical issues and recent developments in the field and practice of early childhood education. Organization, curricula and program evaluation; policy and legislative factors; day care; parental involvement in the educational process. Ms. Stipek

256B. Seminar: Special Topics in Development. Prerequisite: consent of instructor. Mr. Feshbach, Ms. Stipek, Ms. Takanishi

261A. Seminar: Early Childhood Education. Prerequisite: courses 421A-421B. Ms. Feshbach, Ms. Takanishi

211A. Programs, Models and Research in Early Childhood Education. Prerequisite: consent of instructor. Survey and demonstration of the development series and one quarter field placement. Introduction to programs and research in early childhood. Observation of preschool programs on cooperative nurseries, Headstart, and private nursery. Mr. LaBelle, Mr. O'Shea, Ms. Wrigley.

The organization of educational research and its relation to goals of early childhood education.

The Staff

214C. Research and Evaluation of Early Childhood Programs. Prerequisite: two courses from the development series and one course from early childhood education. Prerequisite: two courses from the development series and one course from early childhood education. Critical evaluation and analysis of the various preventive and remedial programs for the young child. Ms. Takanishi

21D. Parents and Community Agents in Childhood Education. Prerequisite: two courses from the development series and one course from early childhood education. Parent agents and community agents as resources for childhood education. Training parents of preschoolers and elementary school children. Role of preschool programs in the community. Development of culturally significant school programs derived from examination of experiences of young children. Ms. Feshbach and Staff

212F. Current Perspectives in Early Childhood Development for the Professional. Prerequisite: required credit for professionals in Early Childhood Education. Critical issues and current developments in the field and practice of Early Childhood Education. Organization, curricula and program evaluation; policy and legislative factors; day care; parental involvement in the educational process; cognitive, emotional and exceptional development; early intervention and mental health. Ms. Feshbach and Staff

LEARNING AND INSTRUCTION

205. Computers in the Educational Process. Introduction to the theoretical basis of educational computerized evaluation and the 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. The Staff
211A. Critical Analysis of Empirical Research in Education. Prerequisites: courses 210A and 210B or equivalent background, and consent of the instructor. A course examining contemporary empirical research in education and its relevance to educational practice. Does not count toward professional skill courses in reviewing substantive and methodological aspects of research.

Shavelson

225. Seminar: Special Topics in Measurement and Research Design. Prerequisite: courses 210C and 211C or consent of the instructor. The Staff

410A. Procedural Problems in Curriculum Evaluation. Assessment methodologies appropriate for curriculum evaluation problems. Writing evaluation proposals, developing program monitoring procedures, selecting appropriate evaluation design strategies, analyzing results in evaluation, framing the decision context, and reporting evaluation results.

Alkin, Popham

410B. Assessment Problems in Curriculum Evaluation. An examination of problems and alternative solutions associated with the task of evaluating curriculum enterprises. Consideration is given to criterion-referenced measurement, domain-referenced achievement testing, and unobtrusive measurement techniques. Insights from these issues relate to the assessment of curriculum programs.

Baker, Popham

420C. Evaluation of Curriculum and Instruction. Prerequisite: consent of instructor. Ways of evaluating the effectiveness of curriculum and instruction, including assessment and improvement of teacher behavior and accomplishment.

Alkin, Popham, Tyler

460. Seminar: Special Issues in Curriculum Evaluation. Alkin, Popham, Tyler

SPECIAL EDUCATION

125A. The Education of Exceptional Children. Prerequisite: Psychology 10 or the equivalent. The psychology of individual difference with emphasis on the learning characteristics of exceptional children and application of research and theory to special education programs.

Alkin, Popham, Mahoney

125B. Principles for Teaching Exceptional Children. Prerequisite: consent of the instructor. Examines approaches for teaching exceptional children in special and regular education programs. Principles and assumptions underlying alternative teaching methods, special education curriculum and classroom management. Observations in schools.

Hewett

225. Issues in the Education of Exceptional Children. Prerequisite: limited to students in graduate degree programs. Analysis of major research regarding contemporary trends, issues, and programs for the exceptional; consideration of commonalities and differences among exceptional children.

Hewett

226A. Medical-Biological Aspects of Mental Retardation. Prerequisite: course 218B or equivalent. Research on the physical and psychiatric aspects of mental retardation as they affect learning in children; instructional modifications based on such factors.

Krupski

226B. Psychosocial Aspects of Mental Retardation. Prerequisite: course 225 or equivalent. Research on the psychosocial aspects of mental retardation as they affect learning in children; instructional modifications based on such factors.

Chan

227A. Research on the Education of the Emotionally Disturbed. Prerequisite: course 225 or equivalent. Research on the psychological and emotional aspects of mental retardation as they affect learning in children; instructional modifications based on such factors.

Hewett

227B. Research on the Education of Children with Learning Disabilities. Prerequisite: course 225 or equivalent; Psychology 132A-132B recommended. Research on learning disorders with special refer-
ence to minimal neurological impairment; instruc-
tional modifications based on such factors.

Ms. Keogh

280A. Seminar: Exceptional Children. Prere-
quise: course 225, or 226A, or 227A and admission to a doctoral program.

Mr. Chan, Ms. Krupski, Mr. Mahoney

280B. Seminar: The Mentally Retarded. Prere-
quise: course 225, or 226A, or 227A and admission to a doctoral program.

Ms. Krupski, Mr. Mahoney

280C. Seminar: The Educationally Handicapped. Prerequisite: courses 225, or 226A, or 227A and admission to a doctoral program.

Mr. Hewett, Ms. Keogh

M280D. Seminar: Children with Learning Disor-
ders. (Same as Psychology M276A.) Prerequisite: course 225, or 226A, or 227A and admission to a doctoral program.

Mr. Coleman

325A. Introductory Laboratory in the Education of Exceptional Children. (% to 1 course) Prerequisite: course 125A or consent of the instructor. Four to eight hours per week field work in the UCLA Neuropsychiatric Institute School, other campus facilities, or public school special education programs. Emphasis on observation and study of children who have learning disabilities, are emotionally disturbed, or are mentally retarded.

The Staff

325B. Advanced Laboratory in the Education of Exceptional Children. (% to 1 course) Prerequisite: course 232A or consent of the instructor. Four to eight hours per week field work in the UCLA Neuropsychiatric Institute School, other campus facilities, or public school special education programs. Emphasis on teaching children who have learning disabilities, are emotionally disturbed, or are mentally retarded.

The Staff

425A. Appraisal of Exceptional Children. Prere-
quise: course 225 and 415A or the equivalent. Individual appraisal of exceptional children with emphasis on the physically handicapped, mentally retarded, educationally handicapped, and gifted; analysis of tests and diagnostic procedures; case studies.

The Staff

425B. Guidance of Exceptional Children. Prere-
quise: course 225 or the equivalent. Educational, vocational, and personal guidance of the exceptional; parent counseling; career and training opportunities; community referrals.

The Staff

426A. Analysis of Programs for the Mentally Retarded. Prerequisite: course 225 or the equivalent. Evaluation of instructional practice in relation to current research; formulation of model programs.

Mr. Mahoney

427A. Analysis of Programs for the Emotionally Disturbed. Prerequisite: course 225 or the equivalent. Evaluation of instructional practice in relation to current research; formulation of model programs.

Mr. Hewett

427B. Analysis of Programs for Children with Learning Disabilities. Prerequisite: course 225 or the equivalent. Evaluation of instructional practice in relation to current research; formulation of model programs. Mr. Chan, Ms. Krupski

501. Cooperative Program in Special Education. (% to 2 courses) Prerequisite: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus Instructor, Department Chairperson, and Graduate Dean. Limited to UCLA doctoral students in Special Education. This course is used to record the enrollment of UCLA doctoral students in practicum courses taken under cooperative arrangements with California State University, Los Angeles. To be graded S/U.

The Staff

AREA III: ORGANIZATIONAL AND ADMINISTRATIVE STUDIES IN EDUCATION

Fields of Specialization:

Administrative and Policy Studies in Education

Curriculum and the Study of Schooling

Education and Work

Higher Education

ADMINISTRATIVE AND POLICY STUDIES IN EDUCATION

147. Social Science Methods and the Law. Prere-
quise: upper division credit in social science methods and 2 years of college level mathematics, or consent of the instructor. For social science methods and 2 years of college level mathematics, or consent of the instructor. A quantitative orientation for understanding and critically analyzing the emerging impact of social science methods and the law. Fundamental skills in statistical and economic analysis of data will be provided along with illustrations of their use in landmark legal cases.

Mr. Bruno

240A. School Administrative Practices Since 1900. An examination of school administration since 1900 as it has responded to social, political, and economic pressures exerted on schools. Development of sensitivity to current pressures and alternatives for administrative response.

Mr. Williams

241. Research Methodology in School Administra-
tion. Prerequisite: consent of the instructor. Examination of research problems and strategies in school administration. Mr. Cheng, Mr. Williams

242. Economic Analysis for Educational Policy and Planning. (Formerly numbered 242F.) Prerequisite: graduate standing. The applications of economics-based methodologies for analysis of issues in educational policy and planning. Techniques addressing educational problems of organization of activities, classification, prediction, optimization, goal setting, and measuring inequalities are discussed.

Mr. Bruno

244. Economics of Education. An introductory course in micro and macro economic techniques applied to education. Methodologies as marginal analysis, linear programming, Leontief I-O models, Lorenz curve analysis are discussed with applica-
tion to school finance, underdeveloped countries, equality of educational opportunity and credentialing.

Mr. Bruno, Mr. Solomon

246A. Seminar: Mathematical Modeling in Edu-
cational Policy Analysis. Prerequisite: course 242, two years of college level mathematics, knowledge of computer programming, or consent of the instructor. Mathematical modeling of educational processes and problems. Deterministic modeling techniques, in addition to stochastic modeling tech-
niques, are discussed. A mathematics review and instruction in the use of the MPS 360 (Mathematical Programming Code) are provided.

Mr. Bruno

246B. Seminar: Operations Research—Systems Analysis in Education. Prerequisite: courses 242 and 246A, two years of college level mathematics, computer programming, or consent of the instructor. Advanced topics in the application of quantita-
tive analysis to educational policy and planning. Methodologies such as logit models, Bayesian analysis, game theory, differential equation growth models and advanced topics in production and human capital theories will be discussed.

Mr. Bruno

246C. Strategic Planning in Education. Problems of goal formulation; interorganizational competition; and control of environmental forces affecting resource utilization, with particular attention to the utility of open-planning models in providing alter-
native resource allocations.

Mr. Bruno

440B. Problems in Educational Government and Finance. (Formerly numbered 240B.) Intensive study of problems and issues affecting the govern-
ance and finance of schools.

The Staff

440C. Administrative of the Instructional Pro-
gram. (Formerly numbered 240C.) Examination of current educational problems in the society and the strategies of their solution through curriculum policy and practice; instructional design and operation; and in-service training of teaching staffs.

The Staff

442A. Administration of Large Systems and Individual Schools. (Formerly numbered 242A.) Prerequisite: consent of the instructor. Theoretical and functional problems in the administration of large systems and decentralized individual schools.

The Staff

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 pro-
cedures; student attendance; control of civil rights.

Ms. Miller

442D. Educational Finance. (Formerly numbered 242D.) Historical and theoretical background of educational finance: considers principles related to federal and state participation in educational finance; considers other economic factors related to the provision and utilization of financial resources in schools.

The Staff

442E. Administration of In-Service Education. (Formerly numbered 242E.) Emphasis on the development of knowledge, skills, and attitudes essential to exercising leadership in in-service education and in-service training of teaching staffs.

The Staff

443. Introduction to Policy Analysis in Education. (Formerly numbered 243.) Prerequisite: consent of the instructor. An overview of the political, economic, and legal context of educational policy making. Included in this examination are issues that impact on minorities; e.g., bilingual education, desegregation, affirmative action, the role of subordinates in the policy-making process.

Mr. Cheng

444A. Legal Aspects of Access to a Public Educa-
tion. Prerequisite: course 442B or consent of the instructor. A study of access to public education focused on the issues of affirmative action, testing, tracking, bilingual/bicultural education, special education, correctional education, and compensatory education suits.

Ms. Miller

444B. Equality of Educational Opportunity through Desegregation and Finance Case Law. Prerequisite: course 442B or consent of the instructor. A concentrated review of the legal aspects of equality of educational opportunity as it is being developed by the courts in cases concerning desegregation and educational finance.

Ms. Miller

447. Seminar: Educational Policy and Planning, Special Studies. (Formerly numbered 247.) Prere-
quise: consent of the instructor.

The Staff

448A. Urban School Leadership. Prerequisite: consent of the instructor. Analysis of the problems of urban school leadership. Emphasis is on the chang-
ing 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 the instructor. Analysis of and opportu-
nity to practice human and technical skills requisite for success as an urban school leader. Topics include negotiations, conflict resolution, applied computer technology, and effective communication. Activities include gaming, situation, computer programming, and group dynamics.

The Staff

470A. Seminar: Large Systems and Individual Schools. (Formerly numbered 270A.) Prerequisite: consent of the instructor.

The Staff

470B. Seminar: Educational Government. (Formerly numbered 270B.) Prerequisite: consent of the instructor.

The Staff
CURRICULUM AND THE STUDY OF SCHOOLING

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.
Miss Crabtree, Mr. Goodlad, Mrs. Tyler

Miss Crabtree, Mr. Goodlad, Mrs. Tyler

224. Problems and Issues in Bilingual and Multicultural Education. Introduction to the development and implementation of bilingual and multicultural programs in the U.S. Analysis of program goals, models, typologies and effectiveness.
Ms. Arias, Ms. Valadez

260. Seminar: Principles of Curriculum and Instruction. Advanced study in the school language curriculum; application to the improvement of the curriculum in the field.
The Staff

242C. Language in the Curriculum. Advanced study in the school language curriculum; application to the improvement of the curriculum in the field.
The Staff

242F. Curricular Design for Multicultural Education. Prerequisite: course 224 or consent of the instructor. Reviews philosophy, design and applications to meet multicultural needs.
Ms. Arias, Ms. Valadez

242G. Curriculum Design for Bilingual Education. Prerequisite: consent of the instructor. Advanced study of curriculum design for bilingual educational programs. Philosophical basis for bilingual programs, theory of learning and instruction applied to the bilingual learner; language assessment; development of instructional component; program evaluation.
Ms. Arias, Ms. Valadez

EDUCATION AND WORK

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

231. The Structure of Occupations. Will explore shifts in the occupational structure of the United States, changing skill requirements for jobs, the effects of work environments and the role of formal and informal education in preparing people for occupations.
Mr. O'Shea, Ms. Wrigley

222. 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

223. 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

Mr. Silberman

240A. 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.
Miss Crabtree, Mr. McNeil, Mrs. Tyler

240D. Curriculum: Principles and Practice. An extended examination of various critical perspectives to questions of purpose, learning opportunities and evaluation.
Mr. McNeil, Mrs. Tyler

222. Inquiry into Schooling: Basic Issues. Critical examination of basic issues and problems in the organization and reconstruction of pre-collegiate schooling. Consideration of historical development and changing functions of schooling in American society; school organization; schooling alternatives; problems in the management of educational change.
Mr. Goodlad, Mr. McNeil, Mrs. Tyler

Mr. Weinberg

244A. The Social Studies in the Curriculum. Advanced study in pre-college curriculum development; problems in defining objectives and organizing disciplines in school programs. Critical review of literature on cognitive and affective learning in social science, with emphasis on experimental study of instructional programs.
Miss Crabtree, Mr. Wright

244B. Reading in the Curriculum. Prerequisite: courses 210A and 313. Study of reading curricula and instructional procedures, with emphasis on the rationale and research underlying their development and the research comparing their effectiveness.
Mr. McNeil, Mr. Wright

426F. Corporate Educational Programs. Historical development of training programs within industry as they are affected by automation and technological change.
The Staff

436A. Principles and Problems of Business Education. Historical development and principles, practices, and problems in business education in secondary schools and colleges.
Mr. Erickson

436B. Business Education in Secondary and Higher Education: Advanced. Advanced study in business education with a critical analysis of significant research applicable to curriculum and teaching practices.
Mr. Erickson

436C-346D. Education in Family Finance. Prerequisite: credit toward advanced degrees by petition only. Theories, principles, concepts and research related to personal and family financial management.
Mr. Erickson

436E. Evaluation and Field Research in Family Finance Education. (4 to 1 course) Concepts and principles relating to family finance education and their application to teaching situations.
Mr. Erickson

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 programs; current educational problems in training programs within industry as they are affected by automation and technological change.
The Staff

461A. Seminar: Adult Education. Ms. Rockhill

HIGHER EDUCATION

M148. Women in Higher Education. (Same course as Women's Studies Program M148.) Prerequisite: upper division standing. The course examines the education and career development of women in higher education. Specifically, it focuses on undergraduate and graduate women, women faculty and administrators. This course program will provide counseling services designed to enhance women's educational and career development, affirmative action, and other recent legislation.
Ms. Astin

180. Social Psychology of Higher Education. An overview of significant studies in the Social Psychology of Higher Education. Focusing on institutional characteristics and students' interpersonal and intrapersonal processes, special emphasis is upon identifying and explaining the effects of the student experience upon student development and achievement.
Mr. A. Cohen, Mr. Pace, Ms. Rockhill

209A. History of Higher Education. An examination of the development of post-secondary education in the United States with attention to the social context and to the scope and variety of institutions.
Mr. A. Cohen, Mr. Pace, Ms. Rockhill

Ms. Astin, Mr. A. Cohen

209C. Problems in Research and Evaluation in Higher Education. A critical review of research and evaluation studies of higher education with special attention to the need for studies of new programs and problems, and to the design and methodology of evaluative research.
Mr. Astin, Mr. Pace

290D. The System of Higher Education. An examination of the structure and function of the American post-secondary education from a systems perspective. Emphasis is given to the structure of the system and to comparative characteristics (faculties, student bodies, finances, outputs) of different types of institutions.
Mr. Astin

293. The Organization and Governance of Educational Systems. Academic organizations, pre-collegiate and post-secondary are most appropriately studied as complex, professionalized organizations. This course program is basic to understanding of the characteristics of educational institutions and systems as organizations: environmental relations, governance structures and processes, and patterns of decision making.
Mr. Riley
TEACHER EDUCATION

For courses 324A-324B-32AC-324D, and 330A-330B-330C-330D, all candidates must (1) secure the approval of the Office of Student Services at least one quarter prior to assignment, including formal recommendation of Student Health Service and evidence of good standing and satisfactory averages; (2) apply to the Head of Supervised Teaching by the middle of the quarter preceding the assignment.

100A. Cultural Foundations of Education. (4 credit hours) Prerequisite: consent of the instructor. Examination of significant problems and issues in the history, culture, and current affairs of contemporary American education. The Staff

100B. Cross-Cultural Foundations of Education. (4 credit hours) Prerequisite: consent of the instructor. Examination of significant problems and issues in the history, culture, and current affairs of multicultural ethnic minority groups in the United States. The Staff

102. The Mexican-American and the Schools. Prerequisite: consent of the instructor. Review of research and teaching strategies. Analysis of school policies and practices, and their effect on the development and education of the Mexican-American and Chicano youth and communities. The Staff

112. Psychological Foundations of Education. Prerequisite: consent of the instructor. Analysis of learning processes in school situations. Examinations in 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. The Staff

249A. Seminar: National Evaluations of Post-Secondary Education. Critical review of national evaluation studies of higher education including programs of general education, and professional and graduate school programs; emphasis on the design, methodology, and interpretation of large-scale evaluation studies. Mr. Astin

249B. Seminar: Institutional Research and Program Evaluation. Critical review of institutional evaluation studies, with consideration of the scope of information needed for various purposes and the problems of interrelating this information to appraise overall institutional functioning and effectiveness. Mr. Riley, Mr. Trent

259A. Seminar: Research on Characteristics of Students. Mr. Trent

259B. Seminar: Research on Characteristics of Educational Environments. Mr. Pace

261D. Seminar: The Community College. Mr. A. Cohen, Mr. Kintzer

334. Supervised Teaching: Junior College. Prerequisite: course 431B taken prior to or concurrent with 334. Mr. A. Cohen

431A. Administration in Higher Education. An overview of college and university administration. Case studies of administrative problems, policies, and practices. Management information systems, resource allocation related to accountability, authority, and participation in administrative decisions. Mr. Riley


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 people's colleges. Methodological innovations such as computer-assisted instruction, credit by examination, and independent study. Ms. Astin, Ms. Rockhill

432. Seminar: Professional Topics in Higher Education. Mr. Astin, Mr. Solmon

461B. Seminar: Adult Education in Other Countries. The Staff

461C. Seminar: Community Service and Development Programs in Post-Secondary Education. Mr. Kintzer

NOTE: For key to symbols, see page 74
research and active participation in the adversary approach, forms of debate, role playing, interaction process analysis, and feedback instruments. Prac-
tical emphasis on social sciences and humanities instruction, K-12.

Mrs. Kourilsy

490A. Instructional Decision-Making. (½ to 1½ courses) Prerequisite: consent of the 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.

Mrs. Baker, Mrs. Kourilsy

491A. Curricular Decision-Making. (½ to 1½ courses) Prerequisite: consent of the 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. Miss Crabtree, Mr. Wright

492. Evaluation of Teaching and Learning. Prerequisite: consent of the instructor. Examines rela-
tionship between appraisal instruments and infor-
mation required for making decisions about teachers, pupils, and materials. Introduces recent developments in the evaluation of teaching and learning. Utilizes the use of modern appraisal techniques in classroom settings.

Mr. McNiel, Mr. Popham, Mr. Skager

INDEPENDENT STUDY, RESEARCH, AND INTERNSHIP

199. Special Studies. (½ to 2 courses) Prerequisite: senior standing and consent of the instructor. Inde-
pendent study of individual problems. The Staff.

299A-299B. Research Practicum in Educa-
tion. May be repeated once for credit. The Staff.

498A-498B. Directed Field Experience. May be repeated once for credit. The Staff.

499A-499B. Advanced Directed Field Experience. May be repeated once for credit. The Staff.

596. Directed Independent Study. (½ to 2 courses) Individual study or research for graduate students. Maximum credit, three courses. The Staff.

597. Preparation for the Master's Comprehensive Examination or the Doctoral Qualifying Examination. Individual study for master's degree candidate for comprehensive examinations or for qualifying examinations on the Ph.D., or Ed.D. Maximum credit, two courses. The Staff.


599. Dissertation Research. (1 or 2 courses) Research for and preparation of the doctoral disserta-
tion. Maximum credit, no limit. The Staff.

ENGINEERING AND
APPLIED SCIENCE

(Office of the Dean, 7400 Boelter Hall)

Russell R. O'Neill, Ph.D., Dean
Russell A. Westmann, Ph.D., Associate Dean
Alfred C. Ingersoll, Ph.D., Associate Dean
Richard Stern, Ph.D., Assistant Dean
Ahmed R. Wazzan, Ph.D., Assistant Dean
Richard L. Perrine, Ph.D., Assistant Dean

DEPARTMENT

Ahmed R. Wazzan, Ph.D., Assistant Dean.
Richard Stern, Ph.D., Assistant Dean.
Alfred C. Ingersoll, Ph.D., Associate Dean.
Russell R. O'Neill, Ph.D., Dean.

APPLIED SCIENCE

(courses. The Staff

599. Dissertation Research

Research for and preparation of the doctoral disser-
tation. Maximum credit, two

Computer Science

(Department Office, 3732 Boelter Hall)

Alginadas A. Avizienis, Ph.D., Professor of Engineering and Applied Science.
B. Wing, Ph.D., Professor of Engineering and Applied Science.
David G. Cantor, Ph.D., Professor of Mathematics and Engineering and Applied Science.
Wesley W. Chu, Ph.D., Professor of Engineering and Applied Science.
Kenneth M. Colby, M.D., Professor of Psychiatry and Engineer-
ing and Applied Science.
Gerald E. Estin, Ph.D., Professor of Engineering and Applied Science (Chairman of the Department).
Joseph J. DiStefano, III, Ph.D., Professor of Engineering and Applied Science.
Lawrence P. McNamee, Ph.D., Professor of Engineering and Applied Science.
Michiel A. Meekman, Ph.D., Professor of Engineering and Applied Science.
David R. Muntz, Ph.D., Professor of Engineering and Applied Science.
Jacques J. Vidal, Ph.D., Professor of Engineering and Applied Science.

CHEMICAL, NUCLEAR, AND
THERMAL ENGINEERING

(Department Office, 5531 Boelter Hall)

Douglas N. Benson, Ph.D., Professor of Engineering and Applied Science.
Harry Buchberg, M.S., Professor of Engineering and Applied Science.

Chemical, Nuclear, and
Thermal Engineering

(Department Office, 5531 Boelter Hall)

Douglas N. Benson, Ph.D., Professor of Engineering and Applied Science.
Harry Buchberg, M.S., Professor of Engineering and Applied Science.

Thomas A. Rogers, Ph.D., Emeritus Professor of Engineering and Applied Science.
Antonius S. Swoboda, D. Tech, Emeritus Professor of Engineering and Applied Science.
Daniel M. Berry, Ph.D., Associate Professor of Engineering and Applied Science.
Alfonso C. Cardenas, Ph.D., Associate Professor of Engineering and Applied Science.
Joseph A. Gagliese, Jr., Ph.D., Associate Professor of Engineering and Applied Science.
Gerard J. Popek, Ph.D., Associate Professor of Engineering and Applied Science.
Milos D. Zrnic, Ph.D., Assistant Professor of Engineering and Applied Science.
Emily P. Friedman, Ph.D., Assistant Professor of Engineering and Applied Science.
Mario Gerla, Ph.D., Assistant Professor of Engineering and Applied Science.
Robert C. Uzgiris, Assistant Professor of Engineering and Applied Science.

ELECTRICAL SCIENCES AND
ENGINEERING

(Department Office, 7732 Boelter Hall)

Frederick G. Allen, Ph.D., Professor of Engineering and Applied Science.
Francis F. Chen, Ph.D., Professor of Engineering and Applied Science.
Robert S. Elliott, Ph.D., Professor of Engineering and Applied Science.
A. Theodore Forrester, Ph.D., Professor of Engineering and Applied Science.
H. J. Orchard, M.S., Professor of Engineering and Applied Science.
F. W. Schott, Ph.D., Professor of Engineering and Applied Science.
C. A. Tenneks, Ph.D., Professor of Engineering and Applied Science.
Chand R. Viswanathan, Ph.D., Professor of Engineering and Applied Science.
Alan N. Willson, Jr., Ph.D., Professor of Engineering and Applied Science.
C. J. Vlahos, Ph.D., Professor of Engineering and Applied Science.
Louis L. Grassi, M.S., Emeritus Professor of Engineering and Applied Science.
W. D. Hershberger, Ph.D., Emeritus Professor of Engineering and Applied Science.
Ellis L. King, M.S., Emeritus Professor of Engineering and Applied Science.
Nicolaou G. Alexopoulos, Ph.D., Associate Professor of Engineering and Applied Science.
Lee W. Casperson, Ph.D., Associate Professor of Engineering and Applied Science.
David A. Hammer, Ph.D., Associate Professor of Engineering and Applied Science.
Neville C. Luhmann, Jr., Ph.D., Associate Professor of Engineering and Applied Science.
Oscar M. Stathakos, Jr., Ph.D., Associate Professor of Engineering and Applied Science.
Jack Willis, B.S., Associate Professor of Engineering and Applied Science.
Rodolfo C. Cordaro, Ph.D., Assistant Professor of Engineering and Applied Science.
Siegfried C. Knehr, Ph.D., Assistant Professor of Engineering and Applied Science.
De-Sen Pan, Ph.D., Assistant Professor of Engineering and Applied Science.
Daniel Rosenthal, Ph.D., Emeritus Professor of Engineering and Applied Science.
William Kleinert, Jr., Ph.D., Associate Professor of Engineering and Applied Science.

Samuel B. Badgidi, Ph.D., Adjunct Professor of Engineering and Applied Science.
Stephen L. Canno, Ph.D., Adjunct Assistant Professor of Engineering and Applied Science.
Ryoshi Kakuchi, Ph.D., Adjunct Professor of Engineering and Applied Science.
Martin H. Liepold, Ph.D., Adjunct Professor of Engineering and Applied Science.
George Martin, Ph.D., Adjunct Professor of Engineering and Applied Science.
Morton A. Stemberg, D.S.C., Former Professor of Engineering and Applied Science.
James R. Warner, Ph.D., Acting Assistant Professor of Engineering and Applied Science.

MECHANICS AND STRUCTURES

(Deartment Office 6731 Boelter Hall)

Andrew F. Charwat, Ph.D., Professor of Engineering and Applied Science.
Julian D. Cole, Ph.D., Professor of Engineering and Applied Science.
Steven C. Crow, Ph.D., Professor of Engineering and Applied Science.
Stanley B. Dong, Ph.D., Professor of Engineering and Applied Science.
C. Martin Duke, M.S., Professor of Engineering and Applied Science.
Kurt Forster, Ph.D., Professor of Engineering and Applied Science.
Michael E. Fourney, Ph.D., Professor of Engineering and Applied Science.
Chung-Yen Liu, Ph.D., Professor of Engineering and Applied Science.
Ajit K. Mal, Ph.D., Professor of Engineering and Applied Science.
William C. Meecham, Ph.D., Professor of Engineering and Applied Science.
Antony J. A. Morgan, Ph.D., Professor of Engineering and Applied Science.
Rokuro Muki, Ph.D., Professor of Engineering and Applied Science.
Lucien A. Schmit, Jr., M.S., Emeritus Professor of Engineering and Applied Science.
George H. Sines, Ph.D., Professor of Engineering and Applied Science.
Richard Stein, Ph.D., Professor of Engineering and Applied Science.

MATERIALS

(Deartment Office, 6531 Boelter Hall)

Alan J. Andel, Ph.D., Professor of Engineering and Applied Science.
Reinard F. Bunsah, D.Sc., Professor of Engineering and Applied Science.
David L. Douglass, Ph.D., Professor of Engineering and Applied Science.
John D. Mackenzie, Ph.D., Professor of Engineering and Applied Science.
Kamau Onio, Ph.D., Professor of Engineering and Applied Science.
Alvy H. Shabbak, Ph.D., Professor of Engineering and Applied Science.
George H. Sines, Ph.D., Professor of Engineering and Applied Science.
Christian N. J. Wagner, Dr. rer. nat., Professor of Engineering and Applied Science.
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Alfred S. Yue, Ph.D., Professor of Engineering and Applied Science.
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ENGINEERING AND APPLIED SCIENCE

mathematically
oriented students.
How a computer
functions and how one can "talk" to it will be explained through
a study of logical circuits, memory,

100B . Engineering
Electromagnetics
. Lecture, four
hours; recitation,
one hour. Prerequisite:
Physics
SC, Mathematics
32C. Electromagnetic
field concepts; Maxwell's
Equations;
static and quasistatic
fields; field energy; energy flow and the Poynting
vector;
electromechanical
interactions;
waves in
unbounded
media and on two-wire
transmission
lines; reflection and refraction;
lossv media; skin
effect;
analogs
to electromagnetic
fields.

Departmental Course Offerings

control, arithmetic,
programming.

102. Mechanics of Particles and Rigid Bodies. Lec-

Chemical , Nuclear,
Courses

10C. Introduction to Computing . (Formerly numbered 10.) Recommended
for Math/Computer

SchoolCourses

ENGINEERING

5, 11, 12, 104, 104CD, 192A, 192B, 192C, 193A,
472A-472D,' 473A-4738,' 596, 597A, 597B, 597C,
598, 599.

Lower Division Courses

'Open only to Engineering Executive Program students.

and Thermal

Engineering

5. Computers in the Man -Made World. An
introduction to computers and computing for non-

computer

organization, and
Mr. Bussell (W)

130A, 131A, 131C, 132A, 133A, 134A, 134B, 134C,
135A, 135AL, 135B,135BL, 135C, 135D, 135E,136A,
136B, 136C, 137, 137A, 137B, 137C, 137D, 138A,
235A, 235B, 235C, 235D, 236A, 2366, 236C, 236D,
238, 238A, 238B, 238C, 238D, 238E, 239AA-AZ,
239BA-BZ, 239CA-CZ, 239DA-DZ, 239EA-EZ,
2395.

Science majors; (emphasis on numerical problems).
Open to graduate
students
on a S/U basis only. Not

Computer Science Courses

10F. Introduction

20, 30, 99, 111, M123B, M124A, 131,132, 141, 151A,
151B, 152A, 152B, 171, 172, 173, 174, 199, 201, 202,
211A, 212A, 2126, 212C, 219, 221, 231A, 231B,
2436, 249, 252A, 253A, 254A, 255A, 257A, 259,
271A, 271B, 273A, 275A, 276A, 276B, 276C, 279,
M285A, 286A, M287A, 288A, 289,479D, 479E, 596,

(Formerly

numbered

Chemical,

Nuclear

Department

and Mechanics

open to students who have completed Engineering
10, 10F, or 105. Algorithms and programming
languages.

Description

and

use of PL/1

program-

ming language. Selected topics in numerical
analysis. Organization and characteristics of digital
computers.

Machine

language.

Programming

and

running of several numeric and non-numeric

prob-

lems.

Mr.

Levine

(F,W,Sp)

to Programming /FORTRAN.
10.)

and

Recommended

Thermal

Depart-

ming techniques.

Programming

and running

of

Engineering Systems Courses

topics

problems.

in numerical

SystemScienceCourses
120A, 120B, M120C, 122A, M123B, 128A, 128D,
221, 222A, 222B, 222C, 222EA-222EZ, M222F,
M222G, 227A, 2278, 227C, 227EA-227EZ, 227F,
227G, 228A, 228B, 228CA-228CZ, 228D, 229A,
2758, M284A , 284XA-284XZ, M285A, M287A,
M291A, M291B.

Mr.

analysis

Levine

(F,W,Sp)

and data processing.

Programming and running of several numeric and
non-numeric problems.
Mr. Levine (F,W,Sp)

to the flow of
fluids.

Mr. Kelly, Mr. Liu (F,W,Sp)
104. Introduction

to Experimental

Techniques.

('h

course ) Principles of simple machining operations,

per week. May be taken before junior year. To be
graded on P/NP basis.
Mr. Stern (F,Sp)
1040-104D.
Laboratory,

Undergraduate
Research Laboratory.
eight hours. Prerequisite:
senior stand-

ing. Two quarter comprehensive

projects in experi-

mental 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.
Campfield,
Mr.
Stern,
Mr. Ullman
(F,W,Sp)

solution
and decision making. Exposure to concepts, theories and techniques in the analysis and

105A. Introduction
to Engineering
Thermodynamics . Prerequisite:
Physics 8B and Mathematics 32A. Phenomenological
thermodynamics.
Concepts
of equilibrium,
temperature
and reversibility. First law and concept of energy; second law

synthesis of total systems in our complex tech-

and concept of entropy. Equations of state and ther-

11. Patterns of Problem Solving . An introduction
to patterns of reasoning in the process of problem

nological

civilization.

Mr. Elliott, Mr. Hart,
Mr. Rubinstein
(F,W,Sp)

Materials Courses

150A, 150B, 151, 152, 153A, 153B, 153C, 154A, 154B,
162B, 162C, 163, 164, 165A, 1658, 165C, 165L, 166,
191A, 199F, 250A, 250B, 250C, 251A, 251B, 251C,
264A, 264B, 265A, 265B, 265C, 266A, 266B, 267A,
267B, 267C, 267E, 267S, 268A, 268B, 269A, 2696,

of mechanics
incompressible

presentation of results. One lecture-demonstration

105. Introduction to Programming for Life and
Social Sciences . (Formerly numbered 10.) Recommended for all majors except Math/Computer
Science, and Engineering;
(emphasis on nonnumerical problems). Open to graduate students on
S/U grade basis only. Not open to students who
have completed Engr. 10, 100 or 10F. Description
and use of PL/1 programming languages. Selected

Mechanics and Structures Courses

tion of the principles
compressible
and

IOC or 105. Description
and use of FORTRAN programming
language. Selected topics in program-

110A, 110B, 110C, lIlA, 1116, 113A, 113B, 115A,
115B, 1150, 115D, 115E, 115F, 116A, 1168, 116C,
117L, M118, 195A, 199B, 210A, 210B, 210C, 210D,
210E, 210-F, 213A, 213B, 213C, 213S, 214A, 214B,
219D, 219E,219X.

143L,
146E,
149C,
243B,
2476,

An introductory course dealing with the applica-

engineering
drawing practices, soldering and welding techniques,
vacuum
systems,
glassblowing,
American standard sizes and color-codes, effective

Electrical Sciences and Engineering Courses

140D, 140E, 140L, 141, 142A, 142L, 143A,
144A, 144L,145A, 145L, 146A, 146B, 146D,
146L, 147A, 147B, 147E, 147L, 147M, 148,
243C, 244, 2450, 246A, 246B, 246D, 247A,
247C, 248A.

103A. Elementary
Fluid Mechanics . Prerequisite:
Mathematics 32C; Engineering
102 recommended.

ment majors; (emphasis on numerical problems).
Open to graduate students on S/U grade basis only.
Not open to students who have completed Engr. 10,

several numeric

106A, 106C, 106D, M107A, 109, 171A, 171C, 173,
184B, 184D, 184E, 193B, M196B, 199D, 270A, 271A,
276A, 277A, 277B, 280A, 280B, 284A, 284B, 284C,
2840 , 284E, 284F, 284G, 284H, M288A, M288B,
M288C, M296A, M296B, M296C.

ture, three hours;
recitation,
two hours.
Prerequisite: Mathematics
32C (may be taken concurrently).
Newtonian
mechanics
(statics
and
dynamics) of particles and rigid bodies. Fundamental concepts of mechanics. Statics, kinematics, and
kinetics of particles and rigid bodies. Impulsemomentum
and work-energy
relationships.
Applications.
Mr. Mingori
(F,W,Sp)

for

Engineering

and Structures

Mr. Alexopoulos (F,W,Sp)

12. Applied

Patterns

of Problem

Solving . Prere-

quisite: course 11. An application of the tools and
methods

discussed

in

Engineering

11,

to

three

specific problems of a social and technical nature.
Mr.

Rubinstein

(W,Sp)

14. Science of Engineering Materials. Prerequisite:
Chemistry 11A, 11B, 11B1; Physics 8A and 8B;
Physics 8C (may be taken concurrently). (Not open
for credit to students who have taken Engr. 1076.)
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)

Upper Division Courses

Physics

8C. Electrical

devices,

small

signal

quantities,

circuit

A.C. circuits,
models,

properties.

principles,

semiconductor

amplifiers,

electrical

containing

linear

and

of

Mr. Edwards, Mr. Vilker (F,W,Sp)
106A . Principles
of Engineering
Economy . Prerequisite: upper division standing. Economic analysis
of engineering
projects; value systems; economic

decisions on capital investment and choice of
engineering
alternatives;
new projects, replacement
and abandonment
policies; risky decisions
including make/buy
policies
and research
investment;
corporate
financial
practices
and accounting.
106B . Introduction
to Design
and Systems
Methodology . Prerequisite:
course 10; Mathematics 32C. Theory of engineering
design and synthesis. Models and modeling.
Analysis,
test and
evaluation.
Methods
for design optimization.
Elementary decision theory. Student's
design projects.

Mr. Rosenstein
Luhmann

(F,W,Sp)

100L. Circuit Analysis Laboratory. (1/2 course)
Prerequisite: Physics SC; Engineering 100, which
should be taken concurrently. Experiments with
circuits

applications

105D . Transport
Phenomena
. Prerequisites:
Physics
813 and Mathematics
32C. Transport
phenomena;
heat conduction,
mass species diffusion, convective heat and mass transfer, and radiation.
Engineering
applications
in thermal
and
environmental
control.

and electronics instruments.
Mr.

Engineering

Mr. English (F,W,Sp)

100. Electrical and Electronic Circuits . Lecture,
four hours; recitation, one hour. Prerequisite:
Mathematics 32C, may be taken concurrently;
signal wave-forms,

modynamic

these principles in the analysis and design of closed
and open systems.
Mr. Nobe, Mr. Robinson (F,W,Sp)

nonlinear

devices;

transient and steady state behavior of circuits.
Mr. Willis (F,W,Sp)

(F,W,Sp)

106C.
Experimental
Design
Laboratory.
Laboratory,
eight hours. Prerequisite: course 106B
or equivalent.Creative experimental projectsfor
student designs in any engineering
domain where
individual
students
have preparation
and interest,

exemplifying
idealized

the professional

performance

method.

is compared

Predicted

to experimen-


106). Engineering Systems Design Laboratory. Recitation, one hour; laboratory, eight hours. Prerequisite: course 106C. 104 recommended. Advanced senior standing required. Similar to 106C and normally a continuation thereof. The principles of biological science are developed in an engineering context. An emphasis is placed on how physiological, psychological, and sociological factors affect the integration of man into environment. Applications to industrial environments and process cost-benefit studies.

Mr. Nottage, Mr. O’Brien (FSP)

M107A. Principles of Biotechnology. (Same as Psychology M153J.) Prerequisite: third quarter sophomore or higher standing. The principles of biotechnology are developed in an engineering context. An emphasis is placed on how physiological, psychological, and sociological factors affect the integration of man into environment. Applications to industrial environments and process cost-benefit studies.

Mr. Nottage, Mr. O’Brien (FSP)


Mr. Nelson, Mr. Westman (FSP)

109. The Engineer and Society. Prerequisite: senior standing. Selected lectures, discussions, oral and written reports related to creative engineering, its sociological and ecological impacts, present, future, and past relationships. Maximum student participation in topical selection and class structuring. Creativity and original thinking is emphasized.

Mr. Iversgall (FSPW)


Mr. Orchard (WSP)


Mr. Temes (FSP)

111A. Electric Power Systems. Prerequisite: course 100. Overall electric power system requirements; typical systems; one-line diagrams. Per-unit quantities; characteristics of machines, transformers, overhead lines and cables; steady-state analysis of systems. Power limits and stability; fault calculations; relay coordination. Mr. Moore (FSP)

111B. Electromechanical Energy Conversion. Prerequisite: course 100. Energy conversion and power flow in electromechanical interactions; electromechanics of actuators and rotating a.c. synchronous and induction machines and d.c. machines.

Mr. Moore (FSP)

113A. Introduction to Lasers and Quantum Electronics. Prerequisite: course 100B or equivalent or consent of the instructor. Properties of lasers including saturation, mode-locking and relaxation effects, and laser applications including optics, modulation, communication, holography, interferometry, and nonlinear effects.

Mr. Casperson, Mr. Stafsudd (F)

115A. Fundamentals of Solid State I. Prerequisite: junior standing in Engineering; course 130A or equivalent is recommended. Introductory atomic concepts, quantum mechanical principles, energy level in complex atoms, band theory, crystal structure, energy levels in solids, band theory.

Mr. Viswanathan (FSP)

115B. Fundamentals of Solid State II. Prerequisite: course 115A. A discussion of the solid state properties, lattice vibrations, thermal properties, dielectric, magnetic, and super-conducting properties.

Mr. Stafsudd, Mr. Viswanathan (W)

115C. Semiconductor Physical Electronics. Prerequisite: course 115B. Band structure of semiconductors, homogenous semiconductors, excess carriers and semiconductor interface surfaces, optical and thermal properties.

Mr. F.G. Allen, Mr. Viswanathan (SP)

115D. Physics of Semiconductor Devices. Prerequisite: senior standing in Engineering. Semiconductor technology, Schottky barrier, p-n junction, MOS capacitor, transistor fundamentals, drift transistor, high frequency properties, field effect transistors, integrated electronics.

Mr. Viswanathan (F/W)

115E. Solid State Electronics Laboratory I. (Course 115) Prerequisite: course 115C. Experiments on magnetic, dielectric, electronic, optical and thermal properties of semiconductor materials; measurement of electronic properties of both p and n type semi-conductors; thermal electronic properties of p-n junction; optical properties of semiconductors.

Mr. F.G. Allen, Mr. Viswanathan (F)

115F. Semiconductor Devices Laboratory. (Course 115) Prerequisite: course 115D. Design, fabrication and characterization of junction, field effect and other semiconductor devices. In particular the student will perform various processing tasks such as wafer preparation, diffusion, metallization, sintering and photolithography.

Mr. F.G. Allen, Mr. Viswanathan (F)

116A. Electronics I. Prerequisite: course 100. 100 percent circuit modeling of electron devices. Device-circuit-environment interactions. Design of single-stage amplifiers. Introduction to cascaded stages, coupling problems and frequency response.

Mr. Knorr (FSP/W)


Mr. Willis (FSP/W)

116C. Pulse and Digital Methods. Prerequisite: courses 116A, 116B. Analysis and design of switching-mode electronic circuits and systems including pulse generation, logic operations, timing and frequency counting.

Mr. Knorr (WSP)


Mr. Willis (FSP)

116E. Electronics I Laboratory. (Course 116A) Recitation, one hour; laboratory, three hours. Prerequisite: course 100B or equivalent or consent of the instructor. Basic amplifier theory, operational amplifiers, band limiting, feedback, limiter, wave shape control, instrumentation amplifier, zero crossover amplifiers. Mr. Knorr (FSP/W)

116F. Electronics II Laboratory. (Course 116B) Prerequisite: course 116C. 116B recommended. Experimental and computer studies of bistable, relaxation and pulse amplifier, and multivibrator feedback amplifiers. Introduction to Thick Film Hybrid Techniques. Construction of amplifier using hybrid thick film techniques.

Mr. Willis (FSP/W)

116G. Pulse and Digital Methods Laboratory. (Course 116D) Prerequisite: course 116M; 116C to be taken concurrently. Experiments on transistor networks, design of diode and transistor switching and timing circuits. Linear and nonlinear wave shaping techniques.

Mr. Knorr (FSP)

117A. Electromagnetic Waves I. Prerequisite: course 100B. Review of transistors and other semiconductor devices. Guided waves in enclosed waveguide and on surfaces; Smith Chart; excitation of guided waves; phase and group velocity; cavity resonators; concept of Q; perturbation theory; waves in complex media (ferrites, crystals, semiconductors, plasmas).

Mr. Schott (FSP)

117B. Electromagnetic Waves II. Prerequisite: course 117A. Retarded potentials; dipole radiation; radiation from wire antennas; near-field and far-field phenomena; antennas; spherical antennas; simple arrays scattering from spheres and cylinders; radar cross-sections.

Mr. Elliott (W)

117C. Modern Optics. (Formerly numbered 117D.) Prerequisite: course 117A or equivalent. Two dimensional transforms. Diffraction methods. Geometrical optics and applications. Gaussian beams. Coherent and incoherent imaging systems. Optical processing methods. Holography and applications. Mr. Alexopoulos, Mr. Milonni, Mr. Cordero (FSP)

117D. Electromagnetic Waves III. (Formerly numbered 117C.) 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 (F, even years)

117L. Electromagnetics Laboratory. (Course 117D) Prerequisite: course 117A; course 117B may be taken concurrently. Experimental investigation of linear and nonlinear wave sources; coaxial, waveguide strip line transmission systems; detectors and power measuring devices; cavity resonator studies; antenna impedance and radiation characteristics.

Mr. Luhmann, Mr. Stafsudd (WSP)

M118A. Plasma Physics. (Same as Physics M122.) Prerequisite: course 100B or Physics 110A. Senior level introductory course to physics of plasmas and ionized gases and fundamentals of controlled fusion. Particle motion in magnetic fields and neutral particles. Fluid and kinetic plasma waves, relaxation processes, equilibrium and stability; kinetic effects. Illustrative laboratory experiments will be discussed.

Mr. Chen (FSP)

120A. Probability. Prerequisite: Mathematics 32B. Probability models and distributions. Introduction to the theory and application of probability, including random variables and vectors, distributions and densities, characteristic functions, limit theorems, preliminary concepts of stochastic processes.

Mr. Craig, Mr. Massey, Mr. Subelman (FSP)

120B. Stochastic Processes. Prerequisite: course 120A or comparable background in probability (e.g., Mathematics 150A-150B), course 121C or equivalent recommended (may be taken concurrently). Fundamentals of the theory of stochastic models, specializing stationary processes and filtering. Random signals and noise, correlation, linear systems; mean-square estimation, the orthogonality principle, Wiener and Kalman filters.

Mr. Mortensen, Mr. Yao (WSP)

M120C. Stochastic Processes. (Same as Mathematics M151J.) Prerequisite: course 120A or Mathematics 150A-150B, or Mathematics 152A and consent of the instructor. An introduction to the theory and application of stochastic models, specializing stationary processes and filtering. Markov chains and pure jump processes; illustrations from queueing systems, point processes, birth and death processes, renewal theory; Poisson processes, Brownian motion.

Mr. Miller, Mr. Rubin (FSP)

121C. Systems and Signals. Lecture, three hours; recitation, two hours. Prerequisite: Mathematics 31A, 31B, 31C or Mathematics 3A, 3B, 3C, Physics
8C or 6B, or consent of the instructor. Introductory course with illustrations from physical and life sciences. Input-output descriptions of systems, linearity, impulse and frequency responses, Fourier methods as transformation of signals, introduction to digital filtering and Fast Fourier Transform. Computational aspects of system modelling and identification. Mr. Carlyle, Mr. Levan (F,W,Sp).

122A. Principles of Feedback Control. Prerequisite: course 121C or consent of the instructor. Feedback design of control systems. Application to problems selected from state languages and finite-state automata. Context-sensitive languages and related areas.

Mr. Aoki, Mr. Wirbel (W).


Ms. Friedman, Ms. Greibach, Mr. Martin (F,W,Sp).

M124A. Applied Numerical Computing. (Same as Computer Science M124A; formerly numbered Engineering 124A.) Prerequisite: Engineering and Computer Science 32C or equivalent. Introduction to scientific computing and an application-oriented survey of computing techniques for several important classes of problems, including matrix computations, numerical root-finding, numerical differentiation, interpolation and approximation. Student computing exercises.

Mr. Carlyle, Mr. Karpilus (F,W,Sp).

127B. Elements of Probability and Information. Prerequisite: M127A or Mathematics 115A or equivalent. Prerequisites: Engineering and Computer Science 32C or equivalent. Introduction to scientific computing and an application-oriented survey of computing techniques for several important classes of problems, including matrix computations, numerical root-finding, numerical differentiation, interpolation and approximation. Student computing exercises.

Ms. Greibach, Mr. Subelman (F,W,Sp).

128A. Linear Systems: The State Space Approach. Prerequisite: course 121C. State-space methods of linear system analysis and design, with application to problems in networks, control, and system modeling.

Mr. Levan, Mr. Wang (F,W).

128D. Discrete Systems and Automata. Prerequisite: two quarters of sophomore-level (or comparable experience with mathematical ideas), such as in linguistics or basic courses in logic or computer programming. An introductory course, emphasizing state-space methods for computer systems, machines, languages, regular expressions, coding, computing, memory, system identification, diagnosis, design considerations.

Ms. Greibach, Mr. Massey (F).

128L. System Science Laboratory. Laboratory: eight hours. Similar to course 128D, except that students will design and operate a computer program to solve problems, under the guidance of the instructor. Laboratory studies such as: applications of interactive computing and on-line graphics; waveform generation, spectral analysis, random signals; control, servomechanisms, stability; holography, spatial signal processing. Students will have the opportunity to use computer facilities and contemporary equipment for measurement and data analysis.

The Staff, System Science Department (Sp).

129A. Introduction to Optimization Techniques. Prerequisite: Mathematics 31C and 32A or 12A and 12B and some knowledge of digital computer programming. The instructor will consider the optimization of functions of many variables, unconstrained and with linear or nonlinear constraints. Nonlinear programming algorithms. Direct search, gradients, Lagrange multipliers, penalty functions, etc. Duality. Sample problems from engineering, economics, management, operations research. Students will solve problems on digital computers.

Mr. Aoki, Mr. Jacobsen (F,Sp).

129L. Linear Programming and Operations Research. Laboratory: two hours.Prerequisite: Mathematics 31C or consent of the instructor. An introduction to the formulation and solution of linear programming problems in operations research. Review of matrix algebra and linear programming in economic systems. The simplex algorithm: duality; geometry of linear programs; decomposition; selected topics in extensions of linear programming.

Ms. Greibach, Mr. Jacobsen, Mr. Aoki, Mr. Wiberg (F,W,Sp).

130A. Introduction to Statistical Thermodynamics. Prerequisite: course 105A. Calculations of expected values and variances of thermodynamic functions for perfect monatomic gas, Einstein monatomic crystal, photon gas, electron gas in a metal, perfect adsorbed gas, perfect diatomic gas, and Debye monatomic crystal. Calculations of gross emission rates from surfaces.

The Chemical Engineering Staff (F).


Mr. Edwards (F,Sp).

132A. Mass Transfer. Prerequisite: course 105D or 131A. The principles of mass transfer by diffusion. Mass transport phenomena in laminar and turbulent flows. Simultaneous heat and mass transfer. Applications including combustion of solids and volatile fuels, evaporation and condensation, advection and transpiration cooling, gas absorption and catalysis.

Mr. Mills (F).

133A. Power and Process Thermodynamics. Prerequisite: courses 103A, 105A, 105D. Introduction to fundamentals of power production and process thermodynamics (ideal reference and real power cycles, compressible flow and combustion). Analysis of system components (nozzles, turbines, pumps, compressors, combustors, cooling towers, heat exchangers), system optimization (applications of fundamentals to power plants).

The Staff, Chemical, Nuclear and Thermal Engineering Department (W).

134A. New Energy Technology: Resources, Conversion, Constraints. Prerequisite: course 105A or equivalent in Physics or Chemistry, or consent of the instructor. Energy resources (fossil, nuclear, Alternative fuels, fuel conversions), nuclear fuels, geothermal sources, solar power, etc. Conversion methods for power production and other energy uses. Consideration of thermodynamic, economic and environmental constraints.

The Staff, Chemical, Nuclear and Thermal Engineering Department (F).

134B. Solar Energy Use and Control. Prerequisite: course 105D or equivalent, or consent of the instructor. Nature and uses of solar radiation; review of selected heat transfer topics pertinent to solar energy collection and use: design analysis of focusing solar energy collector-converters; application of methods of energy analysis to selected applications.

Mr. Buchberg (W).

134C. Chemical, Nuclear and Thermal Pollution of the Environment. (Formerly numbered 134.) Prerequisite: upper division standing. Description of the environment and the nature of environmental problems in which the atmosphere and the water as receptors of man-made and natural pollution: a description of sources of pollution, alternative controls and transport in the environment.

The Staff, Chemical, Nuclear and Thermal Engineering Department.

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. Multi-region reactors, and one and two-group diffusion theory.

Mr. Pomraning (F).

135A-L. Nuclear Analysis Laboratory I. (4 course) Laboratory, four hours. Prerequisite: Engineering 135A. A laboratory course in nuclear engineering comprised of various experiments in reactor physics and related fields. The experiments will consist of measuring and calculating reactor core physical and economic parameters, and pertinent heat transfer/flow parameters.

Mr. Catton (F).

135B. Nuclear Reactor Theory II. Prerequisite: Engineering 135A. Introduction to slowing down, thermalization, multi-group theory, heterogeneous effects, reactor kinetics, and reactor dynamics.

Mr. Apostolakis (W).

135BL. Nuclear Analysis Laboratory II. (4 course) Laboratory, four hours. Prerequisite: Engineering 135B, should be taken concurrently. A laboratory course in nuclear engineering comprised of various experiments in reactor physics and related fields. The experiments will consist of measuring and calculating reactor core physical parameters, and pertinent heat transfer/flow parameters.

Mr. Catton (F).

135C. Introductory Nuclear Reactor Design. (Formerly numbered Engineering 135D) Prerequisites: Engineering 135A, 135B. (Not the same as Engineering 135C prior to Spring Quarter 1980.) Reactor physics, engineering, fuel element design for nuclear reactors. Reactor safety considerations and safety; effects; power distributions; differences among various power reactor systems. Introduction to the use of physics design computer codes.

Mr. Catton (F).

135E. Experimental Reactor Operations, Control and Safety. (4 course) Laboratory, four hours. Prerequisite: course 135A. Operation of the UCLA R-1 Argonaut reactor, measurements of various core parameters and control system responses and demonstration of reactor operation through experimentation. Experiments not included in Engineering 139A, 139B, 135C will be conducted.

Mr. Catton (F).


Mr. Apostolakis (F, even years).

136B. Nuclear Reactor Thermal Hydraulic Design. (Formerly numbered Engineering 136E) Prerequisites: Engineering 105A, 105D, 131A, 133A recommended. Thermohydraulic design of various nuclear power reactor concepts; power generation and heat removal; power cycle, thermal and hydraulic component design; overall plant design; steady state and transient nuclear system operation.

Mr. Dhir (W).


Mr. Ghoniem (Sp).

137A. Introduction to Chemical Engineering. Prerequisites: Chemistry 11C, Mathematics 32C (may be taken concurrently) and Engineering 105A (may be taken concurrently). Introduction to the analysis and design of industrial chemical processes. Material and energy balances.

The Chemical Engineering Staff (F,Sp).

137A. Chemical Engineering Thermodynamics. Prerequisites: 105A, 137 (or consent of the instructor). Thermodynamic properties of pure substances and solutions. Phase equilibrium. Chemical reaction equilibrium.

The Chemical Engineering Staff (F, W).

The Chemical Engineering Staff (F, W).
137B. Chemical Engineering Separation Operations. Prerequisites: Engineering 105D, 137A. Application of the principles of heat, mass and momentum transport to the design and operation of separation processes such as distillation, gas absorption, filtration and reverse osmosis.

The Chemical Engineering Staff (E,F,W)

137C. Chemical Engineering Kinetics. Prerequisites: Engineering 105D, 137A. Fundamentals of chemical kinetics and catalysis. Introduction to the analysis of homogeneous and heterogeneous chemical reactions.

The Chemical Engineering Staff (W)

137D. Chemical Engineering Design. Prerequisites: Engineering 137B, 137C. Integration of chemical engineering fundamentals such as chemical reactor design and separation process design into a design project. Introduction to economic principles for the purpose of designing complete chemical processes.

The Chemical Engineering Staff (Sp)

137E. Diffusion and Interfacial Transfer. Prerequisites: Engineering 105D and 137A. Brownian motion, fluxes according to irreversible thermodynamics, one-dimensional theory: membrane transport, facilitated transport, convective diffusion, concentration boundary layer, turbulent dispersion.

The Chemical Engineering Staff (Sp)

138A. Introduction to Cryogenics and Low Temperature Engineering. Prerequisites: 105A. Liquefaction of gases, cooling to cryotemperatures, LNG processes, liquid hydrogen, and liquid He cryosystems for superfluids and superconductivity.

Mr. Frederking (W)

139A. Introductory Chemical, Nuclear, and Thermal Engineering Laboratory. Three hours; laboratory, eight hours. (Not the same as Engineering 139A prior to Winter Quarter 1977.) Prerequisites: courses 103A, 105A, 105D. Basic introductory laboratory experiments in areas such as 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.

The Staff, Chemical, Nuclear, and Thermal Engineering Department (F,W,Sp)

139B. Chemical and Thermal Engineering Laboratory. Laboratory, eight hours. Formerly numbered 139A. NOT the same as Engineering 139A prior to Winter Quarter 1977.) 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, chemical engineering, heat and mass transfer, nuclear engineering, and environmental problems.

Mr. Mills, Mr. Nobe (W,Sp)


Mr. Yue (Sp)

140E. Materials and Design. Lecture, one hour; laboratory, three hours. (Formerly numbered 140C, senior standing in Materials. Consideration and specification of design requirements: mechanical, physical, and environmental factors. Materials selection, design for tensile, fatigue, and hot heat-treatment Performance evaluation and failure analysis. Integration of knowledge by treating complete problems from a list of different design projects.

Mr. Bunshah, Mr. Shabaik (W,Sp)

140L. Introductory Engineering Materials Laboratory. (6 course) Prerequisite: course 14. Introduction to several laboratory and shop techniques used in fabricating and characterizing different types of materials involved in engineering design.

Mr. Klement, Mr. Yue (W,Sp)

141A. 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, Mr. Klement

142A. Diffusion and Diffusion-Controlled Reactions. Formerly numbered 142B. Prerequisite: course 141. Diffusion in metals and ionic solids, nucleation and growth theory; precipitation from a 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. Ono, Mr. Shabaik (W)

142L. Diffusion and Diffusion-Controlled Reactions Laboratory. (4 course) Prerequisite: course 142A to be taken concurrently. Not open for credit to students who have taken Engineering 142. Design of heat-treating cycles and performing experiments to study interdiffusion, growth of intermediate phases, recrystallization, and grain growth in metals. Analysis of data. Comparison of results with theory.

Mr. Douglass (F)

143A. Mechanical Behavior of Materials. Prerequisite: courses 14, 105A. Elastic flow of metals under simple and combined loading, strain rate and temperature effects, dislocations, fracture, microstructural effects, mechanical and thermal treatment of single crystals and polycrystalline materials. Experiments. Mr. Ono, Mr. Shabaik (W)

143L. Mechanical Testing Laboratory. (4 course) Prerequisite: courses 14, 108; one or more of courses 143A, 158A, 166A recommended. Experimental techniques for the measurements of mechanical properties of polycrystalline materials. Elastic constants, tensile, compression and bend testing, fracture toughness, fatigue and creep testing.

Mr. Ono, Mr. Shabaik (W)

144A. Polymer Science. (Formerly numbered Engineering 149A.) Prerequisites: content of the instructor. Polymerization mechanisms, molecular weight and distribution, chemical structure and bonding, structure crystallinity, and morphology and their effects on physical properties. Glassy polymers, spring polymer, elastomers, adhesives, Fiber forming polymers, polymer processing technology, plasticization.

Mr. Cannon (W)

144L. Design of Specific Polymeric Systems. (4 course) (Formerly numbered 149L.) Prerequisite: course 144A. Preparation and properties of polymers, polymer materials, and their applications. Slip casting, hot pressing, isostatic pressing of powder. Glass melting and fabrication. Determination of chemical and physical properties.

Mr. Knapp (Sp)


Mr. Bunshah, Mr. Wagner (F)


Mr. Shabaik (Sp)

146A. Processing of Ceramics and Glasses. Prerequisite: course 146A or equivalent. A study of the processes used in fabrication of ceramics and glasses, relationship to structure and properties. Processing operations including materials preparation, ceramic engineering and energy. Design of processes to achieve desired characteristics of structure, properties and cost.

Mr. Knapp (Sp)

146D. Structure and Properties of Ceramics and Glasses. Prerequisite: course 146A or equivalent. Methods and factors between crystal structure and microstructure of ceramics and glasses. Defects and imperfections. Correlation of composition, structure, and properties of glasses. Phase transformations. Factors controlling properties such as electrical resistivity, ferromagnetism, ferroelectricity, optical transmission, and thermal expansion.

Mr. Mackenzie (F)

146L. Laboratory in Ceramics. (4 course) Prerequisite: course 146A or equivalent. 146B recommended. To be taken concurrently. 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, sintering of ceramics, design of powders. Glass melting and fabrication. Determination of chemical and physical properties.

Mr. Knapp (Sp)

147A. Introduction to Metallurgy. Prerequisite: course 14 or equivalent. Introduction to metallic materials and their applications. Thermodynamics of metals, melting, casting, gas-solid reactions, design of preparation and processing of metallic alloys for specific applications.

Mr. Bunshah, Mr. Wagner (F)

147B. Metal Fabrication Processes. Prerequisite: course 14. 147A. Experimental investigation and analysis of metal forming processes (forging, extrusion, drawing and rolling). Force measurements, machine forces, metal cutting. Experimental investigation of hot and isostatic pressing of powder.

Mr. Shabaik (Sp)

147M. Metallurgy Laboratory. (4 course) Prerequisite: course 147A. Design of preparation and heat-treatment cycles of alloys for specific applications. Casting, fabrication, metallography, equilbrium diagrams; precipitation-hardening, heat-treatment of steels.

Mr. Klement, Mr. Wagner (Sp)


Mr. Ono (F)

149C. Properties of Art Ceramic Materials. Formerly numbered Engineering 146C. Lecture, three hours; laboratory, three hours. Composition and properties of art ceramics. Selection of raw materials and their functions in bodies and glazes. Design of glazes and methods of expressing composition. Laboratory projects will be included (Not intended for Engineering Majors).

Mr. Knapp (F)
Applied Fluid Mechanics I. Prerequisite: course 103A or consent of the instructor. The course will provide students with a working knowledge of incompressible fluid mechanics. Equations derived and applied to a variety of engineering fields. These will include flow over bodies, turbulent flow in pipes, open channel flow, ocean waves, and porous media.

Mr. Barker (F, W)

Applied Fluid Mechanics II. Prerequisite: course 103A or equivalent, or consent of the instructor. Gas dynamics: isentropic flow in nozzles, normal and oblique shocks, Prandtl-Meyer expansion fan, effects of friction and heat transfer in nozzle and duct flow, and transonic and supersonic flow. Viscous flow: exact solutions of Navier-Stokes equations, boundary layer theory, instability, turbulence, separation.

Mr. Charwat, Mr. Kelly (W, Sp)

151. Performance of Vehicles. Prerequisite: courses 103A, 108A. Preliminary design analysis of the performance of a variety of vehicles, including automobiles, trains, aircraft, rocket-powered vehicles, ground effect machines, ships and sailboats; personal vehicles will include motorcycle, bicycle, and automobile. Fluid energy sources: winds, waves, tides, rivers. Design of turbines, pumps and fans. Activators and fluidic logic elements.

Mr. Charwat

153A. Engineering Acoustics. Prerequisite: upper division standing in Engineering or consent of the instructor. Fundamental course in acoustics. Includes: the ear and hearing; basic acoustical instrumentation; propagation of sound; sources of sound; architectural reverberation; selected subjects.

Mr. Stern (F)

153B. Acoustics Laboratory. Laboratory, eight hours. Prerequisite: course 153A (may be taken concurrently) or consent of the instructor. Experimental studies in the field of acoustics, including audiometry, noise and noise control, acoustical filters, interference patterns, transducers, acoustical measurements, noise characterization and interferences. Field study trips may be necessary to obtain data.

Mr. Stern

153C. Noise and Noise Control Design. Prerequisite: course 153A or consent of the instructor. Practical concepts in design, construction, measurement and analysis of noise suppression techniques. Includes equipment, transducers, environmental factors in sound propagation, enclosures, properties of sound materials, sound interaction in structures, liners, isolators, noise criteria and standards.

Mr. Stern (W, even years)

154A. Aerodynamic Design. (Formerly numbered 150C) Prerequisites: courses 153A, 150A. This course covers the classical ideas of aircraft lift and drag. Lift, drag, thrust, and power are discussed, then aircraft performance and stability. The quarter assignment is the preliminary design of an aircraft satisfying specifications set by the instructor.

Mr. Crow (W)


Mr. Friedmann (Sp)

155. Intermediate Dynamics. Prerequisite: course 102 or equivalent. Not open for full credit to students having taken 102B. The axioms of Newtonian mechanics are derived and applied to a variety of engineering fields. The equations, variational principles; central force motion; kinematics and dynamics of a rigid body, Euler's equations, motion of rotating bodies, oscillatory motion, non-conservative forces, orthogonality relations, the vibrating string.

Mr. Forster (Sp)


Mr. Lin, Mr. Nicholson (Sp)


Mr. Barker, Mr. Charwat (F, W, Sp)

157A. Fluid Mechanics Laboratory. Laboratory, eight hours. Prerequisites: courses 103A, 157. Course provides a background in experimental techniques which will be used in the laboratory. Students will take part in three experiments, each of which will study a practical problem while giving hands-on experience with various measurement methods.

Mr. Barker, Mr. Charwat (Sp)

157B. Experimental Fracture Mechanics. Lecture, two hours; laboratory, six hours. Prerequisite: course 157 or equivalent. Elementary introduction to fracture mechanics and experimental techniques used in fracture, crack tip stress fields, strain energy release rate, fracture characterization, compliance calibration, surface flaws, fatigue crack growth and fatigue life of structural components, mixed mode fracture and individual flaws.

Mr. Fourney, Mr. Westmann (W)


Mr. Westmann (F, W)


Mr. Roberts (Sp)

161A. Introduction to Astronautics. (Not the same as Engineering 161A prior to Fall Quarter 1975.) Prerequisite: course 102. The space environment of earth, near-earth orbits and trajectories, step rockets and staging, the two-body problem, orbital transfer and rendezvous, elementary perturbation theory, influence of earth's oblateness.

The Staff, Mechanics and Structures Department

162A. Introduction to Mechanisms and Mechanical Systems. (Formerly numbered 178A.) Prerequisite: course 102. The analysis and synthesis of mechanisms and mechanical systems are studied including both kinematics and dynamics. Mechanisms from a wide range of applications including automatic machinery, transportation systems and computer peripheral equipment are introduced.

Mr. R. R. Allen, Mr. Dubovsky (F)

162B. Fundamentals of Mechanical System Design. (Formerly numbered 178B.) Lecture, three hours; laboratory, three hours. Prerequisite: course 102. Techniques of modern design and development of mechanical systems. Application and analysis of basic components such as gears, bearings, hydraulic and pneumatic sub-systems. The dynamics of high-speed machines. Students will create a design of their choice.

Mr. Friedmann (Sp)

162C. Electromechanical Systems Laboratory. Lecture, one hour; laboratory, five hours. Prerequisite: course 162B or consent of the instructor. Laboratory course for students interested in research, design or development of complex mechanical and electromechanical devices. The consent of instructor, will select a system which he will develop, build and install. Behavior of this system is studied in detail.

Mr. R. R. Allen, Mr. Dubovsky (Sp)

163. Dynamics and Control of Physical Systems. Prerequisites: courses 171A and either 155 or 169A; concurrent enrollments satisfactory. Application of the principles of dynamics and classical control theory to a wide range of physical systems, including simple flexible or multibody systems and electromechanical devices, space and ground transportation vehicles, and biomechanical systems. Mathematical modeling and computer simulation are emphasized.

Mr. Dubovsky, Mr. Mingori (W, even years)

164. Engineering System Dynamics. Prerequisites: courses 171A, 169A (either of which may be taken concurrently). Computable models of dynamic systems with interacting mechanical, electrical, hydraulic, and thermal components; component models; subsystem interactions; system equations in state-variable form; computer simulation. Rigid and flexible body dynamics; transducers; control systems; nonlinear electromechanical devices; machine, vehicle and biological systems.

Mr. Allen

165A. Elementary Structural Analysis. Prerequisite: course 108. Equilibrium of structures; deformation analysis of structures by differential equation method, moment-area method and the principle of virtual work, influence lines; analysis of statically determinate and indeterminate structures such as beams, frames, arches and trusses; introduction to simple truss equations.

Mr. Dong, Mr. Schmit (F, Sp)

165B. Intermediate Structural Analysis. Prerequisite: course 165A. Classical force, displacement methods of structural analysis; three moment equation, moment distribution, slope deflection methods; continuous beam distribution; virtual work; minimum potential energy; composite material behavior; Castigliano's theorems, generalized displacements, forces; Rayleigh-Ritz method, introduction to matrix methods; stiffness, flexibility matrices for bars, beams.

Mr. Nelson, Mr. Schmit (F, W)

165C. Computer Analysis of Structures. (Formerly numbered 165N.) Prerequisite: course 165A. Development of algorithms and FORTRAN coding for structural analysis, structural deformation and damage analysis, solution of the linear algebraic equations, eigenvalue problems, structural applications; matrix displacement method for planar trusses, frames, direct assembly of system stiffness; matrix force method for planar frames and trusses.

Mr. Nelson (Sp)

165L. Structural Design and Testing Laboratory. (4 units) Lecture, one hour; laboratory, four hours. Prerequisite: courses 157, 165A. Design, construction, instrumentation, and test of a small scale model of a structure. Emphasis on theoretical predicted behavior. Mr. Felton (Sp)

166. Elementary Structural Mechanics. Prerequisite: course 108. Analysis of stress, strain; phenomenological material behavior, fatigue, cumulative damage; bending, extension of beams, unsymmetrical sections, stiffened shell structures, torsion of beams, stress function, warping, thin-walled cross-sections; shear stresses; plate analysis, instability, failure of columns, plates, approximate
methods, empirical formulas.

Mr. Friedman, Mr. Schmit (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. Wind and earthquake forces; design of special structures. Mr. Rea, Mr. Selna (F).


167C. Design of Prestressed Concrete Structures. Prerequisite: course 165A. Prestressing and post-tensioning techniques. Properties of concrete and prestressing steels. Loss of prestress. Analysis of sections for flexural stresses and ultimate strength. Design of beams by allowable stress and strength methods. Load balancing design of continuous beams and slabs. Mr. Rea, Mr. Selna (Sp).

167L. Reinforced Concrete Structural Laboratory. Laboratory, eight hours. Prerequisite: Engineering 167AB and consent of the instructor. Experimental verification of strength design methods used for reinforced concrete elements. Full or near-full scale slab, beam, column, and joint specimens tested to failure. Mr. Rea, Mr. Selna (Sp).


171C. Dynamic Systems Control II. Prerequisite: either course 171A or 122A is recommended. State-space models of continuous and discrete-time dynamic systems. Linear algebra of systems; vector spaces; geometric concepts; transformations and matrices, matrix algebra, linear systems and eigenvalues and eigenvectors. Mr. DiStefano (W,Sp).

173. Engineering Project Management. Prerequisite: background in design and statistics, such as Engineering 106B, 193A or equivalent, with consent of the instructor. Scientific principles and applications, engineering economics, operations research, and computer-aided problem solving. Emphasis on project definition, design, implementation, and evaluation. Quantitative interdisciplinary formulations exemplifying environmental, industrial, business, and administrative challenges when people design and operate critical infrastructures. Mr. D. Selman (W,Sp).

174A. Introduction to Elements of Decision Making. (Not the same as 174A prior to Fall Quarter 1974.) Prerequisite: course 193A or equivalent mathematical training. 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 judgments; bias and scoring rules. Mr. Rubinstein (F).

174A. Introduction to Optimization Methods for Engineering Design. Prerequisite: course 10, Mathematics 32B, 32C. Introduction to applied optimization as an engineering design tool. Computational algorithms and dynamical, civil, chemical, mechanical, and structural notions. Methods for solving the general unconstrained and constrained minimization problem. Methods for converting the general inequality constrained problem to a sequence of unconstrained problems. Mr. Rosenfeld, Mr. Schmit (F,Sp).

177A. Engineering Economics I. Prerequisite: Economics 100 or equivalent or consent of the instructor. A concise analytic development of modern microeconomic theory with emphasis on a high technology society and the engineering firm.


180A. Environmental Biotechnology. Prerequisite: course 107A or consent of the instructor. Physical, physiological, and psychological aspects of the interaction between atmosphere, sunlight, bacteria, and mechanical agents and energies in the environment. Biological and physical requirements for engineering control of the environment; simple applications of mass transfer in environmental systems (bioreactors).

180B. Machine and Systems Biotechnology. Prerequisite: course 107A or consent of the instructor. Quantitative and qualitative methods for assessing man as a component in engineering design applications. Limits and optima of human psychophysical capacity and engineering design control, decision-making problems, and task definitions; problems of man-machine interactions in large-scale systems.

181A. Air Pollution Control. Prerequisite: senior standing or consent of the instructor. Quantitative consideration of the air resource and its management, Air quality measurement and standards. Systems for pollution removal, Industrial, commercial and community air pollution problems. Data analysis, interpretations, laboratory and field trips. Mr. Perrine (Sp).

184A. Engineering Hydrology. Prerequisite: senior standing or consent of the instructor. Elementary probability recommended. Precipitation, climate, hydrology, water quality analysis, groundwater, snow hydrology, hydraulic simulation. Possible field trips. Mr. Dracup (Sp).

184B. Introduction to Water Resources Engineering. Prerequisite: course 103A or consent of the instructor. Principles of hydraulics, the flow of water in open channels and pressure conduits, reservoirs and dams, hydraulic machinery, hydroelectric power, introduction to system analysis applied to Water Resources Engineering. Mr. W. Yeh (W).

184D. Water Quality Control Systems. Prerequisite: upper division standing in engineering or consent of the instructor. Water as a resource: the physical, chemical, and biological bases of pollution and natural environmental carrying capacity with respect to quality control and reclamation; analytical, economic, and performance aspects of process design for prevention and treatment. Field trips. Mr. Dracup, Mr. Stenstrom (F,Sp).

184E. Water Quality Control Laboratory. Laboratory, eight hours. Prerequisites: courses 184A and 11B. Basic laboratory techniques and practice for the characterization and analysis of waters and wastewaters. Selected experiments include measurement of biochemical oxygen demand, suspended solids, dissolved oxygen hardness, and other parameters used in water quality control. Mr. Steinstrom (F).

185A. Principles of Soil Mechanics. Prerequisite: courses 108 or 108A; Geology 11 is recommended. Soil as a foundation for structures and as a material in civil engineering. Soil classification, physical and mechanical properties, compaction, bearing capacity, earth pressures, consolidation and shear strength. Mr. Lade (F,W).

185B. Soil Mechanics—Laboratory Practices. (5 hours) Lecture, one hour; laboratory, three hours. Prerequisite: course 185A or equivalent (currently). Laboratory experiments to be performed by the students to get basic data required for assigned design problems. Soil classification, Atterberg limits, permeability, strength and specific gravity determination.

The staff, Mechanics and Structures Department (Sp).

189A. Elements of Construction. Lecture, two hours; special projects, field trips, four hours. Preparation for the construction-management specialties of the industry; bidding and purchasing strategies, contracts, costs and economics, operations research in construction, planning, and scheduling, equipment and materials, construction management, field engineering techniques; supervision and engineering analysis of construction projects in the vicinity. Mr. Duke (W).

191A. Laplace Transforms and Applied Complex Variables. Prerequisite: courses 101, 102. Introduction to Laplace Transformations: application to electrical and mechanical problems; convolution-type integral equations, difference equations; simple boundary value problems in partial differential equations; complex variable theory, contour integrals, residues; application to transform inversion and partial differential equations. Mr. Forster (W,Sp).

192A. Mathematics of Engineering. Prerequisite: Mathematics 22C or equivalent. Application of mathematical methods to problems of engineering interest. Using the computer in engineering. The main topic covered is systems of linear ordinary differential equations. Fourier series, transforms, and nonlinear effects are also discussed. Emphasis on the solution of differential equations. Mr. Kelly, Mr. Liu, Mr. Pournamiran (F,Sp).

192B. Mathematics of Engineering. Prerequisite: course 192A or equivalent. Applications of mathematical methods to engineering problems are considered. Eigenvalue problems for continuous and discrete systems and the related special functions are studied. Mr. Kelly, Mr. Liu, Mr. Pournamiran (F,Sp).

192C. Mathematics of Engineering. Prerequisite: course 192A or equivalent. Application of mathematical methods to engineering problems. A survey of the classical partial differential equations, wave, heat, and potential. The formulation of boundary value problems and analytical and numerical methods are discussed. Mr. Kelly, Mr. Liu, Mr. Pournamiran (F,Sp).

193A. Engineering Probabilistic and Stochastic Processes. Prerequisite: junior standing in engineering. Sets and set algebra; sample spaces; combinatorics; absolute and conditional probability; discrete and continuous random variables; expectation, distribution, increment, and density functions; Chebychev's inequality; Laplace-Fourier transforms; law of large numbers; central limit theorems; discrete and continuous stochastic processes. Mr. Apostolakis, Mr. Meecham, Mr. Pearl (F,Sp).

COMPUTER SCIENCE

195A. Computer Aided Circuit Design. Prerequisite: course 110B. Also, use of a computer will be required but not taught. Piecewise analysis of large networks. Device modeling, DC, AC, and transient analysis of linear and nonlinear networks. Sensitivity and tolerance analysis. Computer-aided circuit optimization. Mr. McNamee, Mr. Tenen (W)

196A. Introduction to Topics in Bioengineering. (% course) Prerequisite: calculus. History, motivation and current directions in bioengineering. Basic engineering practice and measurement. Biomaterials. Biomechanics. Biosystems. Health services and patient protection. Human factors engineering. Orthotic/prosthetic systems and sensory aids. Course is graded on a pass/fail basis. Mr. Cannon, Mr. DiStefano, Mr. Roberts (F,S,P)

M196B. Modeling and Simulation of Biological Systems. (Same as Medicine M196B.) Formerly numbered M117F. Prerequisite: calculus. Introduction to classical and modern systems and modeling and simulation methods for studying biological systems. Includes multiprocessional modeling, multi-exponential curve fitting and simulation laboratory projects. Applications in physiology and medicine. Life science and medical students are encouraged to enroll. Mr. Campfield, Mr. DiStefano (F,S,P)

199B-199G. Special Studies. (5 to 2 courses) Prerequisite: senior standing and consent of the instructor. Individually selected from a special topic, to be arranged with a faculty member. Enrollment request forms are available in Office 580. Occasional field trips may be arranged. May be repeated for bachelor's degree credit.

199B. Electrical Sciences and Engineering Department. The Staff (F,S,P)

199C. Chemical, Nuclear, and Engineering Department. The Staff (F,S,P)

199D. Engineering Systems Department. The Staff (F,S,P)

199E. Materials Department. The Staff (F,S,P)

199F. Mechanics and Structures Department. The Staff (F,S,P)

199G. System Science Department. The Staff (F,S,P)

COMPUTER SCIENCE

20. Programming and Problem Solving. (Formerly numbered Engineering 20.) Prerequisite: Engineering 10C or consent of the instructor. Open to graduates on a S/U grade basis only. Study of numerical and nonnumerical problems of intermediate complexity, using assembly languages and several programming languages. Students will analyze, program, and run half a dozen problems. Emphasis is placed on individual ability to carry out assignments under minimum supervision. Mr. Levine, Mr. Melkanoff, Mr. Uzgalis (F,S,P)

30. Introduction to Computer Operating Systems. (Formerly numbered Engineering 30.) Prerequisite: Computer Science 20. Open to graduates on a S/U grade basis only. Introduction to computer operating systems. Overview of batch and time-sharing systems. Description of assembly, compilers, linkage editors, loaders. Job control language. overlays, files, structures, buffering, protection. Assignments will include problems on the computers.

99. Individual Programming Projects. (5 to 1 course) Prerequisite: Engineering 10C or consent of the instructor. Course is designed for students wishing to learn individually new programming languages and students wishing to improve their programming skills so as to bring them to the level of Computer Science 20. Students will design, check-out and run programs in various programming languages. Mr. Melkanoff (F,S,P)

111. Systems Programming. (Formerly numbered Engineering 126C.) Prerequisites: Computer Science courses 30 and 141. Introduction to modern operating systems. Mapping and binding of addresses. The organization of multiprocessing and multiprogramming systems. Process, procedure, and interlocks. Resource allocation models and the problem of deadlocks. Job control and system management. Mr. Muntz (F,S,P)

M123B. Theoretical Models in Computer Science. (Same as Mathematics M123B.) Formerly numbered Engineering 123B.) Prerequisite: senior standing or consent of the instructor. Sets, strings, and languages. Phrase-structure languages. Finite-state languages and finite automata. Context-free languages. Pushdown store automata and unrestricted phrase-structure languages and Turing machines. Context-sensitive languages and linear-bounded automata. Elementary decision problems of automata and languages. Mr. Friedman, Mr. Martin (F,S,P)

M124A. Applied Numerical Computing. (Same as Engineering M124A.) Formerly numbered Engineering 124A.) Prerequisite: Engineering 10C and Mathematics C 141. An introduction to scientific computing and application-oriented survey of computing techniques for several important classes of problems, including matrix computations, root-finding, ordinary differential equations, interpolation and approximation. Student computing exercises. Mr. Carlyle, Mr. Karplus (F,S,P)

131. Programming Languages. (Formerly numbered Engineering 125L.) 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/I, and ALGOL 68. Additional topics as instructor sees fit. Mr. Berens, Mr. Uzgalis (F,S,P)

132. Compiler Construction. (Formerly numbered Engineering 125N.) Prerequisite: Computer Science 131 or consent of instructor. Modern compiler structure. Syntax analysis. Lexical analysis. Semantic analysis and runtime environment. Program and data structure. Code optimization. Mr. Martin, Mr. Popek (W,S,P)

141. Basic Methods of Data Organization. (Formerly numbered Engineering 123A.) Prerequisite: Computer Science 20. Fundamental techniques for organizing data. Storing relationships to performance, time/storage tradeoffs. Sequential and linked storage allocation for linear lists, multi-linked structures. Trees: implementation, traversals, properties. Dynamic storage allocation. Topics from: sorting-searching, algorithmic analysis, graph theory, concepts underlying file management. Mr. Klinger, Mr. Melkanoff (F,S,P)

151A. Computer System Architecture I. (Introductory) (Formerly numbered Engineering 125A.) Prerequisite: College level Physics (electricity and magnetism); Engineering 10C; Computer Science 152A. Prerequisite: to be taken concurrently. Understanding relationships in hardware and software. Describing computer organization and operation. Information: its representation and manipulation. Combinational logic design with IC's and MSI devices. Sequential circuits, storage elements and MSI packages. Arithmetic and the arithmetic-logic unit. Mr. Avizienis, Mr. Bussell, Mr. Ercogovac (F,S,P)

151B. Computer System Architecture II: Intermediate (Formerly numbered Engineering 125B.) Prerequisite: Computer Science 151B to be taken concurrently. Formal description of machine organization. Principles: organization of instruction set and memory; addressing structures. Memory organization. Machine-level description generator and processor; I/O processing and interrupts; reliability aspects. Mr. Bussell, Mr. Ercogovac (F,S,P)

152A. Introductory Digital Circuits Laboratory. (5 course) (Formerly numbered Engineering 125ZA.) Prerequisite: Engineering 10C; this course is to be taken concurrently with Computer Science 151A. Familiarization with design and interconnection of logic circuits and networks through implementation and debugging procedures, including experience with printed circuit design. Mr. Bussell (F,S,P)

152B. Digital Systems Laboratory. (5 course) (Formerly numbered Engineering 125Y.) Prerequisite: Computer Science 151B to be taken concurrently. A computer based laboratory which probes computer architecture through construction simulation and measurement of digital subsystems. Mr. Bussell (F,S,P)

171. On-Line Computer Systems. (Formerly numbered Engineering 124D.) Prerequisite: senior standing and consent of the instructor. Study of computer architecture with emphasis on hardware and software concepts. Adapting digital computers to interfaces, including multi-programming, interrupt and time-sharing, considerations. Digital communication, remote consoles, sampling, quantizing, multiplexing, analog digital conversion, and data reconstruction. Mr. Karplus, Mr. Levine (F,S,P)

172. Simulation and Models. (Formerly numbered Engineering 124E.) Prerequisite: Computer Science 20. Model formulation and programming for discrete event systems in simulation languages (e.g., GISS, SIMSCRIPT). The simulation data base and considerations for language development. Statistical considerations- design of experiments, random number generation, analysis of model results. Computer exercises. Mr. Karplus, Mr. McNamee (W)

173. Random Data Analysis and Measurement Procedures. Prerequisite: Engineering 121C. Provides practical aspects of random data analysis and measurement procedures. Includes statistical properties of random data, correlation, spectral density, input/output relationships, statistical errors, coherence functions, data acquisition and processing techniques. Mr. McNamee (F)

174. Elements of Computer Graphics. (Formerly numbered Engineering 124E.) Prerequisite: Computer Science courses 171, 131, 141 or consent of the instructor. Hardware and software elements of computer graphics systems, including problems of intelligent terminals, communications and graphics languages. Application areas and cost effective uses of commercially available systems. Mr. McNamee (W)

199. Special Studies. (Formerly numbered Engineering 199A.) Prerequisite: senior standing and the consent of the instructor. Individual investigation of a selected topic, to be arranged with a faculty member in the Computer Science Department. Research work, investigation of a selected topic, to be arranged with a faculty member in the Computer Science Department. May be repeated for bachelor's degree credit. The Staff, Computer Science Dept. (F,S,P)

GRADUATE COURSES

Chemical, Nuclear, and Thermal Engineering

230A. Advanced Engineering Thermodynamics. (Formerly numbered Engineering 230A.) Prerequisite: Engineering 130A or equivalent. Phenomenological and statistical thermodynamics of chemical and physical systems with engineering applications. Presentation of the role of atomic and molecular structure in the interpretation of thermodynamic properties of gases, liquids, solids and plasmas. The Chemical Engineering Staff (W)

"230B. Nonequilibrium Thermodynamics. (Formerly numbered Engineering 230B.) Prerequisite: Chemical, Nuclear and Thermal Engineering 230A. Interpretation of non-equilibrium 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 and heat currents; numerical calculation of parameters. Mr. Robinson

230C. Cryogenics. (Formerly numbered Engineering 238A.) Prerequisite: Engineering 137A. The study of basic phenomena in low temperature systems including superconductors, superfluids, and superheavy metals. Mr. Morris (F)

230D. Thermodynamics of Phase Transitions. (Formerly numbered Engineering 236A.) Prerequisite: Chemical, Nuclear and Thermal Engineering 230A or equivalent. Phase change criteria and separation of phases. Molecular thermodynamic treatment of multicomponent systems with chemical engineering applications. Solubility of gases and solids in liquids. Phase equilibrium properties of fluid mixtures. Mr. Robinson (Sp)

231A. Convective Heat Transfer Theory. (Formerly numbered Engineering 231A.) Prerequisite: Engineering 131A. The conservation equations for flow of real fluids. Analysis of heat transfer in laminar and turbulent, incompressible and compressible flows. Internal and external flows; free convection; Variable wall temperature; effects of free convection. Analysis of convective and radiative transfer processes. Mr. Edwards (W)

231B. Radiation Heat Transfer. (Formerly numbered Engineering 231B.) Prerequisite: Engineering 131A. Radiant intensity and flux. Radiation properties of surfaces. Heat transfer by combined conduction, convection, and radiation in nonabsorbing and absorbing media. Applications to industrial, aerospace, energy-conversion, and environmental problems. Mr. Edwards (Sp)

231C. Boiling and Condensation. (Formerly numbered Engineering 231C.) Prerequisite: Engineering 131A, 150A or equivalent. Phenomenological theories of boiling. Hydrodynamic instability of film and bubble interfaces and their application to prediction maximum and minimum heat fluxes. Forced flow boiling of liquid metals. Film and dropwise condensation. Mr. Dhir (Sp)

231D. Application of Numerical Methods to Transport Phenomena. (Formerly numbered Engineering 231D.) Prerequisite: Engineering 131B, 132A or consent of the instructor. Numerical techniques for solving selected problems in heat and mass transfer: two-phase flow, laminar boundary layer flow, two-phase flow, separated flow, in porous media. Effects of concentration and temperature gradients, chemical reactions, radiation, electric and magnetic fields. The Staff, Chemical, Nuclear and Thermal Engineering Department (F)


231F. Advanced Heat Transfer. (Formerly numbered Engineering 231F.) (Not open to students who have taken 231C prior to Fall Quarter 1977.) Prerequisite: Chemical, Nuclear, and Thermal Engineering 231A. Advanced topics in heat transfer from the current literature. Linear and non-linear theories of thermal and hydrodynamic instability; variational methods in transport phenomena; phenomenological theories of turbulent heat and mass transport. Mr. Dhir (Sp)

232B. Advanced Mass Transfer. (Formerly numbered Engineering 232B.) Prerequisite: Engineering 131A, 132A. The formulation of the general convective and mass transfer problem including equilibrium and nonequilibrium chemistry. Similar and dissimilar mass transfer: solution procedures for turbulent flows. Multicomponent diffusion. Application to the hyperbolic boundary layer, ablation and transpiration, cooling combustion. Mr. Mills (W)


234A. Topics in Thermal Design. (Formerly numbered Engineering 234A.) Prerequisite: Engineering 131A, 132A. Consideration of thermal design problems selected from applications such as heat exchangers, heat shields, heat pipes, thermal environment control, spacecraft temperature control and solar thermal conversion. Presentations will be made by students and occasionally by invited off-campus specialists. Mr. Buchberg, Mr. Mills (F)

235A. Neutron Transport Theory. (Formerly numbered Engineering 235A.) Prerequisite: Engineering 135B. The analytical and computational methods used in the design of nuclear reactors. Applications to spatially dependent and angular dependent problems in various approximations, $P_\infty$, $S_{\infty}$, and diffusion theory. The use of variational and singular eigenfunction methods. Mr. Apostolakis (F)

235B. Energy Dependent Reactor Analysis. (Formerly numbered Engineering 235B.) Prerequisite: Chemical, Nuclear, and Thermal Engineering 235A. The analytical and computational methods used in the design of nuclear reactors. Applications to spatially dependent and angular dependent problems in various approximations, $P_\infty$, $S_{\infty}$, and diffusion theory. The use of variational and singular eigenfunction methods. Mr. Apostolakis (Sp)

235C. Nuclear Reactor Kinetics. (Formerly numbered Engineering 235C.) Prerequisite: Chemical, Nuclear, and Thermal Engineering 235A. Time independent behavior of nuclear reactor systems. Analysis of the reactor as a lumped and distributed parameter system. Calculational methods; nodal synthesis and approximation techniques. Mr. Apostolakis (Sp)

235D. Methods of Nuclear Reactor Analysis. (Formerly numbered Engineering 235D.) Prerequisite: Chemical, Nuclear, and Thermal Engineering 235A, and Engineering 135B, and consent of instructor. The analysis of nuclear reactor systems by approximation techniques, analytical methods and numerical methods. A synthesis of reactor physics and engineering with applications to various systems. Mr. Apostolakis (Sp)


236B. Radiation Damage in Reactor Materials. (Formerly numbered Engineering 236B.) Prerequisite: Engineering 136C. Fundamentals of radiation damage; energy loss and Lindhard's theory. Atom displacement, the collision cascade; focusing and channeling effects, computer simulations and models. Analysis of various techniques for material testing, bulk effects of radiation, void swelling and irradiation creep, surface effects, blistering and sputtering of surface atoms, and microstructure.

236C. Thermal Reactor Safety. (Formerly numbered Engineering 236C.) Prerequisite: Engineering 135A; and 136B (may be taken concurrently). (Not offered this quarter; Engineering 236C was dropped effective Fall Quarter 1975.) Safety-related characteristics of boiling water, pressurized water, and high-temperature gas-cooled nuclear power reactors; design criteria and siting considerations; methods of accident analysis; probabilistic methods of risk considerations. Mr. Caton (W)

236D. Fast Reactor Safety. (Formerly numbered Engineering 236D.) Prerequisite: Engineering 135B. Safety related characteristics of liquid-metal and lead-bismuth fast breeder reactors. Materials characteristics; sodium voiding and fluid-structure interactions; super-prompt-critical behavior; generic accident codes; containment design aspects; post-accident heat removal. Mr. Kastenberg (Sp)

236E. Advanced Problems in Reactor Design. (Formerly numbered Engineering 236E.) Prerequisite: at least 4 courses from 233A-238A. Nuclear, Chemical, Nuclear, and Thermal Engineering 235A. The formulation of the general convective and mass transfer problem including fuel elements, power reactor cores, pulsed reactors, fuel cycle and fuel management, thermal-hydraulics, shielding, and safety. Mr. Okrent (F)

M236G. Seminar in Fusion Reactor Technology. (Formerly numbered Engineering M236G.) (Same as Chemical, Nuclear, and Thermal Engineering 236G.) Prerequisite: consent of the instructor. Non-plasma problems in the design of fusion reactors: environmental hazards, lithium blankets, radiation damage, high-wall materials, superconducting magnets, energy storage, fuel injection and ash removal, reactor stability and control, transmutation of radioactive wastes, and other current topics. Mr. Ghioni (W, odd years)

236H. Probabilistic Risk Assessment. Prerequisite: Engineering 136A. Basic concepts of risk benefit; low probability high consequence events; methods for the evaluation of risk; fault/event tree analysis; potential failure modes, methods and techniques; decision theory; applications to large technological systems, e.g., nuclear power reactors, chemical process systems, dams, etc. Mr. Apostolakis (Sp)


The Chemical Engineering Staff

237B. Molecular Dynamics. (Formerly numbered Engineering 237B.) 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 (W)

237C. Surface Science. (Formerly numbered Engineering 237C.) Prerequisite: Engineering 133A, 137C or consent of the instructor. Chemical processes at the gas-solid interface. Physics and chemistry of the solid surface, reconstruction, and heterogeneous reactions. Gas-solid interactions, mechanism and rate of adsorption and surface reactions on clean and covered surfaces. Experimental techniques in surface science. Mr. Ullman (Sp)

237E. Combustion Processes. (Formerly numbered Engineering 237E.) Prerequisite: Engineering 132A or 137C. Fundamentals change equations for multi-component reactive mixtures, rate laws. Applications: combustion, including burning of (a) premixed gases or (b) condensed fuels. Detonation. Sound absorption and dispersion. Mr. Knuth, Mr. Smith (Sp)
238. Advanced Diffusion and Interfacial Transfer. Prerequisite: Engineering 137E or consent of the instructor. Advanced treatment of diffusion and interfacial transfer with applications to industrial separation processes, cleaning and finishing, bioengineering; molecular and phenomenological theories of diffusion; structure of the interface; membrane transport, facilitated transport, active transport, concentration boundary layers, turbulent diffusion.

The Chemical Engineering Staff (F)

238A. Chemical Reaction Engineering. (Formerly numbered Engineering 237A.) 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. Mr. Nobe (Sp)

238B. Electrochemical Kinetics. (Formerly numbered Engineering 238B.) Prerequisite: one year 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 (Sp)

238C. Electrochemical Engineering. (Formerly numbered Engineering 238C.) Prerequisite: one year 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 electrochemical fuel cell design, and modern battery technology. Mr. Bennon (W)

238D. Biochemical Engineering. (Formerly numbered Engineering 237B) Prerequisite: Engineering 137B or consent of instructor. Biochemical models and experimental techniques for describing the thermodynamics and transport behavior of solutions of biological macromolecules. Nonequilibrium solution behavior emphasized. Applications to mass transfer processes in natural and man-made systems. Elementary theory of biochemical reactions.

Mr. Vilker (W)

238E. Corrosion Science and Engineering. (Formerly numbered Engineering 138B.) Prerequisite: Engineering 137B or consent of instructor in physical chemistry or equivalent. Fundamentals of electrochemical thermodynamics and kinetics pertinent to corrosion processes are presented. Topics such as corrosion inhibition, passivity, anodic and cathodic protection, corrosion and repair, corrosion and embrittlement will be covered. Optional laboratory experiments will be offered. Mr. Nobe (F)

239A-239AZ. Special Topics in Chemical Engineering. (1 course to 1 course) (Formerly numbered Engineering 239E) Prerequisites: consent of the instructor and additional prerequisites for each offering as announced in advance by the Chemical, Nuclear and Thermal Engineering Department. Advanced and current study of one or more aspects of chemical engineering such as chemical reactor, dynamics and control, fuel cells and batteries, membrane transport, advanced chemical engineering analysis, polymers, optimization in chemical process design, may be repeated for credit when no duplication exists.

The Chemical Engineering Staff (F,W,Sp)

239A-239BZ. Seminar: Current Topics in Transport Phenomena. (1 course to 1 course) (Formerly numbered Engineering 239B) Prerequisite: consent of the instructor. Lectures, discussions, student presentations and projects in areas of current interest in transport phenomena. All sections are graded S/U only, and may be repeated for credit.

The Chemical Engineering Staff (F,W,Sp)

239C. Seminar: Current Topics in Energy Utilization. (Formerly numbered Engineering 239C) Prerequisite: consent of the instructor. Review of current literature in an area of energy utilization in which the instructor has developed special proficiency as a consequence of research interests. Student reports on selected topics. The Thermal Engineering Staff (F,W,Sp)

239DA-239EZ. Seminar: Current Topics in Nuclear Engineering. (1 course to 1 course) (Formerly numbered Engineering 239E) Prerequisite: consent of the instructor. Lectures, discussions, student presentations and projects in areas of current interest in nuclear engineering. All sections are graded S/U only, and may be repeated for credit.

The Nuclear Engineering Staff (F,W,Sp)

239EA-239EZ. Seminars in Chemical Engineering. (1 course) Prerequisite: consent of the instructor and additional prerequisites for each offering as announced in advance by the Chemical, Nuclear and Thermal Engineering Department. Lectures, discussions, student presentations and projects in areas of current interest. All sections are graded S/U only, and may be repeated for credit.

The Chemical Engineering Staff (F,W,Sp)

239F. Chemical, Nuclear, and Thermal Engineering Department Seminar. (4 course) (Formerly numbered Engineering 239F) Prerequisite: graduate standing. A series of lectures by faculty and graduate students in the Department of Chemical, Nuclear and Thermal Engineering. Future topics and presenters will also present topics of current interest to Chemical, Nuclear, and Thermal Engineering. To be graded on a S/U basis.

The Staff, Chemical, Nuclear and Thermal Engineering Department

Computer Science

201. Computer Science Seminar. (Formerly numbered Engineering 225S) Prerequisite: graduate standing. Lectures on current research topics in Computer Science. To be graded on a S/U basis.

Mr. Berry, Mr. Muntz, Mr. Parker (F,W,Sp)

202. Advanced Computer Science Seminar. (Formerly numbered Engineering 225X) Prerequisite: completion of Major Field Examination in Computer Science or consent of instructor. Current research topics in computer science 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 specialization area. May be repeated for credit.

Mr. Estrin, Mr. Karplus (F,W,Sp)


Mr. Muntz (W, even years)

212A. Queueing Systems: Theory and Applications. (Formerly numbered Engineering M223A) Prerequisite: Engineering 212A or consent of instructor. Analysis of queueing (waiting line) systems. Discrete- and continuous-time Markov processes; birth-and-death processes; baby queueing theorems; Little's Law; steady-state performance analyses; finite and infinite servers; queueing networks; and applications. Applications to communication systems, data-processing systems, time-shared processors, computer networks, manufacturing systems, and transportation systems. Mr. Kleinrock (F)

212B. Advanced Queueing Theory and Applications. (Formerly numbered Engineering M223B) Prerequisite: Computer Science 212A. Advanced topics in queueing theory: including Lindley's Integral Equation; Pollaczek method; busy period and residual time distributions; explosive and collective marks; inequalities, bounds, and approximations; tandem queues; and algebra for queues. Applications to communication and computer networks, computer systems, and manufacturing systems.

Mr. Kleinrock (W)

212C. Computer Communications Networks. (Formerly numbered Engineering 223C) Prerequisite: Computer Science 212A. Computer communication network models, analysis and design techniques are examined. Experience with an existing international network (the ARPANET) is discussed and the operational procedures and pitfalls are presented. Measured performance and cost effectiveness of large scale computer systems are considered.

Mr. Kleinrock (Sp)

219. Current Topics in Computer System Modeling Analysis. (3 courses) Prerequisite: consent of the 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. Student reports on selected topics. May be taken for credit more than once with consent of the instructor.

The Staff, Computer Science Department (F,W,Sp)

221. Economics of Computers. Prerequisite: consent of instructor. Basic economic factors in data processing. Buyers and sellers; products; applications; market costs factors; Selection and operation of a data processing system.

Mr. Melkanoff (W)

231A. Advanced Topics in Programming Languages. (Formerly numbered Engineering 225P) Prerequisite: Computer Science 131. Presentations, analysis and discussion of specialized programming languages, new hardware and new and/or advanced features of programming languages.

Mr. Berry, Mr. Melkanoff (W)

231B. Advanced Topics in Computer Language Design. Prerequisites: Computer Science 132, 141, 213B, 232A or 232B, treatment of current topics in computer languages including data types and control, modern languages, levels of abstraction, methodologies for standardization and proposals for new problems, oriented and extended languages. Emphasis on generalization from current language designs.

Mr. Ugalis (Sp)

232A. Operational Semantics of Programming Languages. (Formerly numbered Engineering 225K) Prerequisite: Computer Science courses 123B and 131. (May be taken concurrently.) Interpretation Models of Programming Languages: Semantics: information structure models, Vienna definition language, lambda calculus, LISP definition, interpreter equivalence and correctness.

Mr. Berry, Mr. Melkanoff (F)

232B. Semantics of Programming Languages. (Formerly numbered Engineering 225L) Prerequisite: Computer Science M123B or equivalent, consent of the instructor. Syntax-directed semantics of context-free languages. Knuthian semantic systems (K-systems) that provide a 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. Martin (F)


Mr. Martin (W)

234B. Advanced Topics in Software Engineering. Prerequisites: Computer Science 131 and Computer Science 232A or 232B. A course on important recent topics in software engineering and closely related topics; e.g., structured program, program proofs-analysis and synthesis of programs, abstract data types, modularity, debugging, programming teams.

Mr. Berry (Sp)

234C. High Level Language Computer Architecture. Prerequisites: Computer Science 131 and Computer Science 232A or 232B. A course on the important recent topics in software engineering and closely related topics; e.g., structured program, program proofs-analysis and synthesis of programs, abstract data types, modularity, debugging, programming teams.

Mr. Berry (Sp)
239. Current Topics in Computer Science-Programming Languages and Systems.  (% to 4 courses) (Formerly numbered Engineering 226Z.) Prerequisite: consent of the 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, provided no duplication exists.

The Staff, Computer Science Department

241A. Data Management Systems. (Formerly numbered Engineering 226D) Prerequisite: Computer Science 131 or Management 113A-113B, or equivalent; Computer Science 141 or equivalent. Information and data management level structure, file organization and system control, 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, Mr. Popek (F,W,Sp)


242A. Privacy and Security in Computer Information Systems. Prerequisites: Computer Science 111 or consent of the instructor. Analysis of the technical difficulties of producing secure computer information systems that provide guaranteed controlled sharing, with emphasis on software models and design. Examination and critique of current systems and their security features. Pertinence of such systems to relevant social issues. Mr. Popek (W)

243B. Abstract Data Types and Program Specification. Prerequisites: Computer Science 141, Computer Science M123B. The notions of abstract data type and abstract program specification permit one to understand and manipulate data, independently of their implementations. These notions also give powerful techniques for program structuring and verification. The class will include programming exercises. Mr. Coggon (Sp)

249. Current Topics in Data Structures. (% to 3 courses) Prerequisite: consent of the instructor. Review of current literature in an area of Data Structures in which the instructor has developed special proficiency as a consequence of research interests. Student reports on selected topics. May be taken for credit more than once with the consent of the instructor.

The Staff, Computer Science Department

251A. Advanced Computer Architecture. Prerequisite: Computer Science 151A, 151B, and 111, or consent of instructor. Functional and structural models of computer systems. Architecture and organization at microprogramming, machine language and operating system level. Processor organization and system control. Arithmetic processors: algorithms and implementation. Storage system organization: hierarchy and management. Communication and processor interfaces. Mr. Avizienis, Mr. Ereogovac

252A. Computer Science Design: Arithmetic Processors. (Formerly numbered Engineering 225A.) Prerequisite: Computer Science 251A or consent of instructor. Concepts of number systems, digital numbers, algorithms and implementation of digital arithmetic processors; conventional arithmetic: algorithm algebraization; floating-point and significance arithmetic; redundant, signed-digit, residue number systems; error detecting codes for digital arithmetic; algorithm evaluation by analysis and simulation.

Mr. Avizienis, Mr. Ereogovac (F,Sp)


253B. Advanced Topics in Fault-Tolerant Computing. Prerequisite: Computer Science 253A. Analysis and discussion of the modeling, design, and evaluation of fault-tolerant computer systems. Emphasis on current research results and new systems in the stages of design and development. May be repeated for credit, provided no duplication exists.

Mr. Avizienis, Mr. Rennels (Sp)

254A. Computer Memories and Memory Systems. (Formerly numbered Engineering 225D) Prerequisite: Computer Science 251A or consent of instructor. Generic types of memory systems; control, access modes, hierarchies and allocation algorithms; implementation and device considerations of ferrite memories, thin film memories and semiconductor memories. Mr. Chu (F)

255A. Data Communications in Computer Systems. (Formerly numbered Engineering 225E) Prerequisite: Computer Science 251A or consent of instructor. Intra/interprocessor Communications: communication between processor, memory and input/output. Multiprocessor communication, switching and multiplexing. Multi-computer systems: interprocessor communications, synchronization, flow control, file allocation and deadlock problems. Communications with remote terminals, communication protocols and standards, error detection and handling, optimal block size, line control protocol, and multiplexing.

Mr. Chu (W)

257A. Computer System Design: Comparative Architecture and Synthesis Methods. (Formerly numbered Engineering 225B) Prerequisite: Computer Science 252A. Advanced topics in Computer System Architecture. Elucidate important properties of computer systems and study methods for modeling, evaluating, and synthesizing them.

Mr. Estrin (W)

259. Current Topics in Computer Science-System Design (Architecture). (% to 4 courses) (Formerly numbered Engineering 225Z.) Prerequisite: consent of the instructor. Review of current literature in an area of Computer Science System Design (Architecture) in which the instructor has developed special proficiency as a consequence of research interests. Student reports on selected topics. May be repeated for credit, provided no duplication exists.

The Staff, Computer Science Department

271A. Computer Methodology: Continuous Systems Simulation. (Formerly numbered Engineering 224A) Prerequisite: Computer Science courses M124A and 171. The organization, selection and areas of application of analog digital-computer systems. Error analysis, numerical analysis aspects, digital simulation languages for continuous systems characterized as difference and differential equations.

Mr. Karplus, Mr. Levine (Sp)

271B. Computer Methodology: Distributed Parameter Systems. (Formerly numbered Engineering 224B) Prerequisite: Computer Science M124A. A survey of the mathematical formulation and computer solution of field problems governed by partial differential equations. Emphasis on digital simulation methods, including finite difference approximations, Monte Carlo methods and the use of modern programming and programming languages.

Mr. Karplus, Mr. Vidal (F)


Mr. McNamara (W)

274A. Interactive Computer Graphics. Prerequisite: consent of the instructor. Current topics in interactive computer graphics system design, development, and application.

Mr. Russell

275A. Information Processes in Nervous Systems. (Formerly numbered Engineering 223K) Prerequisite: consent of the instructor. Discussion of acquisition and transfer of information in the nervous system and of the role of computers in the analysis and interpretation of the physiological data.

276A. Statistical Pattern Recognition. (Formerly numbered Engineering 225M) Lecture, four hours; Prerequisites: some background in probability such as Engineering 120A, Mathematics 150A or consent of the instructor. Computer methodology in the design and implementation of pattern recognition systems. Emphasis on decision and optimization. Introduction to scene analysis. Applications to pictures, alphabetical characters, speech, and chromosome data. May be repeated for credit, provided no duplication exists.

Mr. Klinger (F,Sp)

276B. Structural Pattern Recognition. Prerequisite: some background in Computer Science such as Computer Science 141, M123B or consent of the instructor. Descriptive methods in computer processing of patterned data. Formal languages and pattern description languages. Syntactic analysis and pattern recognition. Introduction to scene analysis. Applications to pictures, alphabetical characters, speech, and chromosome data. May be repeated for credit, provided no duplication exists.

Mr. Klinger (F,Sp)

279. Current Topics in Computer Science-Mathematics. (% to 4 courses) (Formerly numbered Engineering 224Z.) Prerequisite: consent of the 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, provided no duplication exists.

The Staff, Computer Science Department

M284A. Context-Free Languages. Same as System Science M284A.) (Formerly numbered Engineering 228E) Prerequisite: Computer Science M123B or Engineering M123B. Detailed study of context-free languages and their restrictions and generalizations, including: grammars, derivation trees, ambiguity, normal forms, operators, closure properties, pushdown automata, context-free languages, deterministic machines and languages, LR(k) grammars, macro grammars.

Mr. Friedman, Mr. Greibach (W)


Mr. Friedman, Mr. Melkanoff

286A. Heuristic Programming and Artificial Intelligence. (Formerly numbered Engineering 223E) Prerequisite: Computer Science course 141 or 131 or consent of instructor. Survey of a body of computer programs which successfully perform tasks generally agreed to require some intelligence.
The objective is to develop understanding of current research and possibilities of limitations implied by existing experiments in autonomaous behavior.

Mr. Cogen, Mr. Klinger (W)

M287A. Theory of Program Structure. Prerequisite: Computer Science Game as System (M287A; formerly numbered Engineering 223F.) M123B or Engineering M123B. Models of computer programs and their syntax and semantics; emphasis on programs and recursion schemes; equivalence, optimization, correctness and translatability of programs; expressive power of program constructs and data structures; selected current topics.

Ms. Friedman, Mr. Melkanoff (F)

288A. Algebraic Foundations of Computer Science. Prerequisite: Mathematics 112B or equivalent, or consent of the instructor. A systematic algebraic approach to certain basic problems in computer science, including: verification of program and hardware correctness; data structures; compiler correctness; structured programming; tree manipulation; automata; program schemes; recursiveness; and various approaches to semantics.

Mr. Cogen, Mr. Goguen (F,W,Sp)

289. Current Topics in Computer Theory. (4 to 3 courses) (Formerly numbered Engineering 2232.) Prerequisite: consent of the 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. Student reports on selected topics.

The Staff, Computer Science Department (F,W,Sp)

497D-497E. Field Projects in Computer Science. Prerequisite: consent of the 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 participation. They will submit a team report of their findings and recommendations. This course is offered on an In Progress basis which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for all quarters of work.

Mr. Melkanoff (497D, F; 497E, W)

596. Directed Individual or Tutorial Studies. (4 to 2 courses) Prerequisite: graduate status 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. To be graded on a S/U basis.

The Staff, Computer Science Department (F,Sp)

597A. Preparation for M.S. Comprehensive Examination. (4 to 3 courses) Prerequisite: graduate status in Engineering; consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Reading and preparation for M.S. comprehensive examination. To be graded on a S/U basis.

The Staff, Computer Science Department (F,Sp)

597B. Preparation for Ph.D. Preliminary Examination. (4 to 4 courses) Prerequisite: graduate status in Engineering; consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Preparation for Ph.D. Preliminary Examination, including preliminary research on dissertation topics. To be graded on a S/U basis.

The Staff, Computer Science Department (F,Sp)

598. Research for and Preparation of the Master's Thesis. (4 to 3 courses) Prerequisite: graduate status in Engineering; consent of the instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised investigation for M.S. candidates, including thesis prospectus. To be graded on a S/U basis.

The Staff, Computer Science Department (F,WSp)

599. Research for and Preparation of the Doctoral Dissertation. (4 to 4 courses) Prerequisite: graduate status in Engineering; consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised investigation. To be graded on an S/U basis.

The Staff, Computer Science Department (F,WSp)

Electrical Sciences and Engineering


Mr. Orchard (F)


Mr. Orchard (W)


Mr. Orchard, Mr. Temes (W)

210D. Active, Passive, and Digital Filters. (Formerly numbered Engineering 210D.) Prerequisite: Electrical Sciences and Engineering 210C or consent of the instructor. Approximation theory. Realization of passive filters. Electro-mechanical filters. Active filters with lumped and/or distributed elements. Switched and active RC filters. All pass filters. Emphasis on experimental considerations and requirements. To be graded on an S/U basis.

Mr. Orchard, Mr. Temes (Sp)


Mr. Willson (W)


Mr. Willson (W)

213A. Quantum Electronics I. (Formerly numbered Engineering 213A.) Prerequisite: Electrical Sciences and Engineering 210B. Prerequisite: Engineering M118 or Physics M122 and consent of the instructor. Principles of confinement and heating of plasmas in magnetic fields. Field configurations, magnetic tori, bounded plasmas, nonlinear wave coupling and damping, parametric instabilities, anomalous resistivity, shock waves, echoes, laser heating. Emphasis on experimental considerations and requirements.

Mr. Chen (Sp)

214C. Principles of Thermonuclear Fusion. (Formerly numbered Engineering 214C.) Prerequisite: Engineering M118 or Physics M122 and consent of the instructor. Principles of confinement and heating of plasmas in magnetic fields. Field configurations, magnetic tori, bounded plasmas, nonlinear wave coupling and damping, parametric instabilities, anomalous resistivity, shock waves, echoes, laser heating. Emphasis on experimental considerations and requirements.

Mr. Chen (W, odd years)

214E. Seminar in Fusion Reactor Technology. (Formerly numbered Engineering M214E.) Formerly numbered Electrical Engineering M224E. (Same Chemical, Nuclear and Thermal Engineering M236C.) Prerequisite: consent of the instructor. Non-plasma problems in the design of fusion reactors: environmental hazard, lithium blankets, radiation damage, first-wall materials, tritium handling, super-conducting magnets, energy storage fuel injection and ash removal, reactor stability and control, transmutation of radioactive wastes, and other current topics.

Mr. Chen (W, odd years)


Mr. Viswanathan (F)

215B. Solid State Electronics II. (Formerly numbered Engineering 215B.) Prerequisite: Electrical Sciences and Engineering 215A. Energy band theory, equilibrium in semiconductors, transport properties of semiconductors, formation of donor and acceptor states, valleys, and selected optical and electronic properties, superconductors.

Mr. Pan (W)

215C. Microwave Semiconductor Devices. (Formerly numbered Engineering 215C.) Prerequisite: Electrical Sciences and Engineering 215A. Physical principles and design considerations of
microwave solid-state devices; IMPATT and TRAPATT diodes, BARITT diodes, transferred electron devices, tunnel diodes, opto-electronic devices and acoustic surface wave devices.

Mr. F. G. Allen (Sp)

215D. Physics of Solid State Devices. (Formerly numbered Engineering 215D.) Prerequisite: Engineering 116B and 116F. Introduction to the theoretical and design considerations of modern solid state devices; minority carrier devices; field effect devices; opto-electronic devices; acoustic electric devices.

Mr. F. G. Allen (Sp)


Mr. Willis (F,Sp)

216B. Modern Electronic and Parametric Devices. (Formerly numbered Engineering 216B.) Prerequisite: Engineering 116B. Critical examination of modern electronic devices, with emphasis upon basic operating principles and behavior and performance in system usage. Specific devices to be analyzed may be grouped as follows: semiconductor microwave, parametric, and quantum electronic devices.

Mr. Willis (W)

216C. Integrated Circuit Design. (Formerly numbered Engineering 216C.) Prerequisite: Engineering 116B, 116C, 115D. Electrical Sciences and Engineering 216A. Integrated circuit design fundamentals, layout and interaction; optimization of processes and system performance, reliability, yield, competing IC technologies, high-speed linear and logic circuits, memories, computers, special function IC, hardware/software tradeoffs. Mr. Knorr (Sp)


Mr. Alexopoulos, Mr. C. W. Yeh (217A-F; 217B-W)

217C. Microwave Circuits. (Formerly numbered Engineering 217C.) Prerequisite: Engineering 117A. Transmission line review, optimization of transmission line and microstrip. Multiprop microwave networks; scattering and inhomogeneous matrices; devices. Inhomogeneously filled guided waves. Surface guide. Excitation of guided waves. Periodic structures and filters. Mr. Elliott, Mr. Schott (Sp)


219A. Seminars on Advanced Topics in Electromagnetics. (Formerly numbered Engineering 219A.) Prerequisite: Engineering 117A, 117B or equivalent. Current topics in electromagnetics, such as wave interaction with kerrites, moving media, data processing antennas, waves in statistically varying media, numerical methods applied to electromagnetic problems, holograms and partially coherent waves. May be repeated for credit.

Staff, Electrical Sciences and Engineering Department (Sp)

219B. Seminars on Advanced Topics in Solid State Electronics. (Formerly numbered Engineering 219B.) Prerequisite: Electrical Sciences and Engineering 215A, 215B. Current research topics, such as radiation effects in semiconductor devices, diffusion in semiconductors, optical and micro-wave semiconductor devices, nonlinear optics, and electron emission. Staff, Electrical Sciences and Engineering Department (W)

219C. Seminar: Special Topics in Applied Electronics. (Formerly numbered Engineering 219C.) Prerequisite: Electrical Sciences and Engineering 216C or consent of the instructor. Current topics in applied electronics and electronic systems. May be repeated for credit. Staff, Electrical Sciences and Engineering Department (F)

219D. Special Topics in Electric Circuit Theory. (Formerly numbered Engineering 219D.) Prerequisite: Electrical Sciences and Engineering 210B or 210C or 210D. Advanced treatment of topics chosen from research areas in electric circuit theory.

Staff, Electrical Sciences and Engineering Department (Sp)

219E. Special Topics in Quantum Electronics. (Formerly numbered Engineering 219E.) Prerequisite: Electrical Sciences and Engineering 213A or consent of the instructor. Advanced treatment of topics chosen from research areas in quantum electronics such as guided wave optics, unconventional laser systems, optical detection, and coherent optical imagery. May be repeated for credit. Mr. Capmany, Mr. Cordero, Mr. Stafsudd (Sp)

219X. Advanced Electrical Science and Engineering Seminar. (% course) (Formerly numbered Engineering 219X.) Prerequisite: passing of the Ph.D. major field examination or instructor's approval in seminar area. Elective topics in solid state and quantum electronics (Section 1) or in electronic circuit theory and applications (Section 2). Each student will report on a tutorial topic and on a research topic of his dissertation area. May be repeated for credit. To be graded on S/U basis. Mr. Viswanathan (F,WSp)

Electromagnetic Systems

270A. Synthesis of Industrial Engineering Systems. (Formerly numbered Engineering 270A.) Prerequisite: Engineering 173 or 173B or equivalent. The theory and quantitative formulation for the transdisciplinary design of engineering systems to meet advanced industrial requirements in productivity, profitability, environments, and resource considerations. Application areas will vary from year to year.

Mr. Nottage, Mr. O'Brien (Sp)


Mr. Elliott, Mr. Schott (Sp)

271B. Seminar: Systems Stochastic Estimation and Control. (Formerly numbered Engineering 271B.) Seminar: Systems Stochastic Estimation and Control. May be repeated for credit. Staff, Electrical Sciences and Engineering Department (Sp)

271C. Dynamic Systems Identification, Stability and Adaptive Control. (Formerly numbered Engineering 271C.) Prerequisite: Engineering 217A, 217B. Current research topics, such as: identification and control of linear and nonlinear systems, stability of adaptive systems, identification and control of self-adaptive control. Mr. Leondes (W)

271D. Seminar and Special Topics in Dynamic Systems Control. (Formerly numbered Engineering 271D.) Prerequisite: consent of the instructor. Seminar on current research topics in dynamic systems modeling, control and applications. Topics selected from process control, differential games, nonlinear filtering, industrial and aerospace applications, etc.

Mr. Leondes (Sp)

1272D. Advanced Topics in Operations Research and Large Scale Systems. (Formerly numbered Engineering 216V.) Prerequisite: Engineering 217A, 217B, 217C. Advanced topics in operations research from chosen among identification and optimization problems for static and dynamic systems, sensitivity theory, systems modeling, controllability, resource allocation, modeling techniques and other topics.

Mr. Leondes


Mr. Pearl, Mr. Rubinstein (W)

274B. Problem Solving and Decision Making (II). (Formerly numbered Engineering 274B.) Prerequisite: Engineering Systems 274A. Topics and projects in the methodology of problem solving and knowledge representation by humans and machines. Foundation of knowledge acquisition, structural and qualitative, numerical and symbolic relational structures. Value of information and the processing of judgmental data. Computerized theory formulation, knowledge-acquisition-based knowledge systems.

Mr. Moguen, Mr. Pearl (Sp)

274C. Computer Methods of Data-Analysis and Model Formation. (Formerly numbered Engineering 274C.) Prerequisite: Engineering 193A or 120A or consent of the instructor. Techniques of using computers to interpret, summarize and form theories of empirical observations. Mathematical analyses of tradeoffs between the computational complexity, storage requirements and precision of computerized models.

Mr. Pearl, Mr. Vidal (Sp)

274D. Perspectives on Systems Representation for Analysis and Synthesis. (Formerly numbered Engineering 274D.) Prerequisite: Engineering Systems 274A or consent of the instructor. Mathematics of computer-aided design of engineering systems. Organization of the design process, its decision points and back-up information, for automatic machine processing of the specifications to provide full design data for a family of products.

Mr. Rosenberg (Sp)

276A. Computer-Aided Design. (Formerly numbered Engineering 276A.) Prerequisite: Engineering 117A or equivalent and 124L. Seminar in computer-aided design of engineering systems. Advanced techniques for mechanized problem solving, the use and representation of knowledge in computer aided design systems.

277A. Advanced Engineering Economics I. (Formerly numbered Engineering 277A.) Prerequisite: Engineering 177A and 177B or equivalent. Advanced treatment of topics in engineering economics, such as productivity, profitability, environments, and resource considerations. Applications to economic growth. Role of technology in productivity, profitability, environments, and resource considerations. Applications to economic growth. Role of technology in productivity, profitability, environments, and resource considerations.

Mr. Heineman (F,Sp)

277B. Advanced Engineering Economics II. Seminar. (Formerly numbered Engineering 277B.)
Prerequisite: Engineering Systems 277A or equivalent or consent of the instructor. The economics of engineering and social systems. Long-range investment concepts. Physical analogy to Walras' model. An entropy approach to financial decision making. Topics in present value and inflation and its effects. 

280A. Advanced Biotechnology. (Formerly numbered Engineering 280A.) Prerequisite: Engineering 180A or 180B or consent of the instructor. Review and analysis of contemporary bioscience research with focus on various engineering components and system design. Emphasis is on methodological and scientific factors underlying man-machine-environment interactions. 

Mr. Lyman (W)

280B. Advanced Biotechnology. (Formerly numbered Engineering 280B.) Prerequisite: Engineering 180A or 180B or consent of the instructor. Specialized coverage of "human factors" and "human engineering" with orientation toward design of engineered systems for the benefit of humans in relation to engineering parameters of environment, communication and control. 

Mr. Lyman (Sp)

284A. Surface Water Hydrology. (Formerly numbered Engineering 284A.) Prerequisite: Engineering 184B or consent of the instructor. Theory of the surface water components of the hydrologic cycle. Instantaneous units hydrograph, dynamic wave equations, rainfall-runoff models using system theory, unit hydrograph. Stochastic hydrology: time series analysis, Markovian streamflow generating models, and generation of multivariate synthetic streamflows. Applications. 

Mr. W.G. Yeh (W)


Mr. W.G. Yeh (Sp)

284C. Water Resources Systems Engineering. (Formerly numbered Engineering 284C.) Prerequisite: Engineering 129L, 184B. Application of mathematical programming techniques to water resources systems. Topics include reservoir regulation, optimal design and operation of water resources projects and real-time conjunctive operation of ground water and surface water resource systems. Emphasis is on the management of water quantity. 

Mr. Dracup, Mr. W.G. Yeh (Sp)

284D. Advanced Water Quality Control Systems. (Formerly numbered Engineering 284D.) Prerequisite: Engineering 184D. Physical, chemical and biological bases for design of advanced water and wastewater quality control systems. Includes treatment processes, standards and requirements; concepts in physical, organic and colloidal chemistry; bacteriology and limnology; reservoir, estuary, stream, and ocean outfall management; water quality modeling, Field flows. 

Mr. Dracup, Mr. Stenstrom (W)

284E. Saline Water Conversion. (Formerly numbered Engineering 284E.) Prerequisite: Engineering 137A and Chemistry 110A-110B or equivalent. Current research and development in saline water conversion, in the desalination, evaporation, freezing, reverse osmosis and chemical extraction. A study of process optimization and economics of combined water power systems. 

Mr. McCutchan, Mr. Van Vorst (W)

284F. Selected Topics in Water Resources. (By course) (Formerly numbered Engineering 284F.) Prerequisite: graduate status; consent of the instructor. Review of recent research and development in the management of resources. Water and hydroelectric power generation. Water quality management. Water law and institutions. Economic planning and optimization of water resources development. May be repeated twice for credit. 

Mr. Dracup (F)

284G. Engineering Economics of Water and Related Natural Resources. (Formerly numbered Engineering 284G.) Prerequisite: one or more of the following courses recommended: Engineering 177A, Economics I, 2, 100, 101A, 10B, or consent of the instructor. Economic theory and applications in the management of water and related natural resources; application of price theory to water resource management, electric power supply, petroleum and natural gas, water pollution and natural gas pollution and renewable resources; benefit-cost analysis with applications to water resources planning. 

Mr. Dracup (W)


Mr. Dracup, Mr. Steenstrom (Sp)

M288A. Urban Transportation Planning I. (Same as Architecture and Urban Planning M241A, formerly numbered Engineering 288A.) Prerequisite: consent of the instructor. The prediction of urban transportation and economics of urban systems. Review of automobile and public transit systems; urban highway and transit planning programs; the financing of urban transportation; environmental and social impacts of urban transportation policies; current policy dilemmas; controlling the automobile-promoting mass transit, energy issues, needs of elderly and handicapped. 

Mr. Campbell (F)

M288B. Urban Transportation Planning II. (Same as Architecture and Urban Planning M241B, formerly numbered Engineering 288B.) Prerequisite: consent of the instructor. (or corequisites.) AUP 241A, 220A, 220B or equivalent. Economic and social basis for travel; basic data sources for examining urban travel and transportation systems. Elements of forecasting and analyzing travel; mathematical models of travel; trip generation, trip distribution, modal split, travel cost analysis, and travel choice; use of forecasts and approaches to transportation system and project evaluation. 

Mr. Campbell (W)

M288C. Urban Transportation Planning III. (Same as Architecture and Urban Planning M241C.) Prerequisite: (or corequisites.) AUP 241A-241B, 220A-220B-220C. Recent experience and case studies in transportation planning and policy. Planning a rail system and downtown people mover for Los Angeles; community dial-a-ride services; express buses on freeways; the Santa Monica Freeway Diamond Lane project; decision-making in project planning; a freeway management Program for Los Angeles; carpooling and vanpooling programs; field trips and guest speakers. 

Mr. Campbell (Sp)

M296A. Biocybernetics I. (Formerly numbered Engineering M296A.) Prerequisite: Engineering 171C or equivalent. The prediction of fatigue life of structures-strength correlations and thermal processes. Design concepts to improve fatigue life. 

Mr. Dracup, Mr. D'Este (F)

M296B. Biocybernetics II. (Formerly numbered Engineering M296B.) Prerequisite: same as Medicine M296C. Same as Medicine M296C. 

M296C. Seminar. Advanced Topics in Biocybernetics. (Formerly numbered Engineering M296C.) Prerequisite: consent of the instructor. Interactive seminar on current research topics in biocybernetics. Dynamic systems and control, communication and control of biological systems. Critical survey of their application in the life sciences. The systems viewpoint of regulation in selected biological systems. Applications to human pathophysiology, diagnosis and therapy. 

Mr. Campfield, Mr. D'Este (W)

M296D. Seminar. Advanced Topics in Biocybernetics. (Formerly numbered Engineering M296D.) Prerequisite: M296C, same as Medicine M296C. 

Materials


Mr. Knapp (W)


Mr. Wagner (W)


Mr. Shabaka (F)


Mr. Shabaka (F)

243A. Fracture of Structural Materials. (Formerly numbered Engineering 243A.) Prerequisite: Engineering 158A or equivalent. The engineering and scientific aspects of crack nucleation, slow crack growth with an emphasis on fracture mechanics, delamination models, fatigue, fracture in reactive environments, alloy development, fracture-safe design. 

Mr. Sines (W)

243B. Design for Fatigue Reliability. (Formerly numbered Engineering 243B.) Prerequisite: Engineering 141 or equivalent. Engineering and physical concepts have alternate fatigue life. Design concepts to improve fatigue life. 

Mr. Shabaka (Sp, odd years)


Mr. Shabaka (F)
and high strength non-ferrous alloys.

Mr. Ono (F, even years)

244. Electron Microscopy. (Formerly numbered Engineering 244.) Prerequisite: Engineering 145A or equivalent. Essential features of the electron microscope, geometry of electron diffraction, kinematics, image contrast, electron diffraction including anomalous absorption, applications of theory to defects in crystals. Moiré fringes, direct lattice resolutions, Lorentz microscopy, laboratory applications of thin section techniques.

Mr. Ardell (F, odd years)

245C. Diffraction Methods in Science of Materials. (Formerly numbered Engineering 245C.) Prerequisite: Engineering 145A or equivalent. Theory of the diffraction of waves (x-rays, electrons, and neutrons) in single or non-crystalline materials. Long- and short-range order in crystals, structural effects of plastic deformation, solid-state transformations, arrangements of atoms in liquids and amorphous solids.

Mr. Wagner (F, odd years)

246A. Mechanical Properties of Nonmetallic Crystalline Solids. (Formerly numbered Engineering 246A.) Prerequisite: Engineering 146A. Material and environmental factors affecting the mechanical properties of non-metallic crystalline solids, including atomic bonding and structure, atomic-scale defects, microstructural features, residual stresses, temperature, stress state, strain rate, size effects, and deformation conditions. Methods for evaluating mechanical properties.

Mr. Mackenzie, Mr. Sines (F, odd years)

246B. Structure and Properties of Glass. (Formerly numbered Engineering 246B.) Prerequisite: Engineering 146A. Structure of amorphous solids and glasses. Concepts of glass formation and theories of glass structure. Mechanical, electrical, and optical properties of glass, and relationship to structure.

Mr. Mackenzie (Sp, even years)

246D. Electronic and Optical Properties of Ceramics. (Formerly numbered Engineering 246D.) Prerequisite: Engineering 146A. Principles governing electronic properties of ceramic single crystals and glasses and effects of processing and microscopic structure on these properties. Electronic, ferroelectricity, and photochromism. Magnetic ceramics. Infrared, visible, and ultraviolet transmission. Unique application of ceramics.

Mr. Mackenzie (Sp, odd years)


Mr. Ardell (W)

247C. Advanced Solidification. (Formerly numbered Engineering 247C.) Prerequisite: Materials 247A or equivalent. Liquid state concept of constitutional supercooling; nucleation from the liquid phase; nucleation and growth of liquid-solid; transformation; fluid motion; interface morphology; eutectic growth; determination of phase diagrams; student reports on current topics in solidification.

Mr. Yue (F, even years)

248A. Experimental Methods in Materials Synthesis. (Formerly numbered Engineering 248A.) Prerequisite: a bachelor's degree in chemistry, physics, or engineering. Techniques used in materials synthesis temperature measurement, vacuum techniques, measurement of solubility and quenching, consolidation and refining of metals, crystal growth, thin film deposition and thick film formation. Laboratory experiments and demonstrations carried out. Mr. Bunshah (F)

Mechanics and Structures

250A. Foundations of Fluid Dynamics. (Formerly numbered Engineering 250A.) Prerequisite: Engineering 150A or consent of the instructor. The course develops and applies the fundamental theorems of fluid dynamics. Ideal fluids, potential flow, vortex motion, and viscous flow are treated. The history of fluid dynamics is illustrated with problems drawn from mechanics, aerodynamics, and geophysics.

Mr. Cole, Mr. Crow (F, even years)

250B. Viscous and Turbulent Flows. (Formerly numbered Engineering 250B.) Prerequisite: Engineering 150A or consent of the instructor. The course develops and applies the fundamental principles of fluid dynamics to the study of fluid resistance. States of fluid motion are discussed in order of advancing Reynolds numbers: zero, boundary layers, instability, transition, and turbulent shear flows.

Mr. Cole, Mr. Crow (W)

250C. Compressible Flows. (Formerly numbered Engineering 250C.) Prerequisite: Engineering 150A or 150B or consent of the instructor. Effects of compressibility are included. Steady and unsteady inviscid supersonic and transonic flows; method of characteristics; small disturbance theories (linearized and hypersonic). Shock dynamics.

Mr. Charwat, Mr. Cole (Sp)

251A. Stratified and Rotating Fluids. (Formerly numbered Engineering 251A.) Prerequisite: Engineering 150A or equivalent or consent of the instructor. Fundamentals of fluid flows with density variations or rotation, illustrated by examples with analytical, numerical, and experimental techniques. Importance of linear and finite amplitude wave motion. Flow past bodies; blocking phenomena. Viscous effects. Instabilities. Turbulent shear flows, wakes, pulses, and gravity currents.

Mr. Kelly (F)

251B. Marine Hydrodynamics. (Formerly numbered Engineering 251B.) Prerequisite: Engineering 150A or equivalent or consent of the instructor. Engineering 193A-193B or equivalent or consent of the instructor. Basic hydrodynamics; small amplitude and shallow water theories; wave beams; ship waves; mathematical hydraulics; breaking of a dam.

Mr. Barker, Mr. Cole (W)

251C. Fluid Dynamics of Pollution. (Formerly numbered Engineering 251C.) Prerequisite: Engineering 150A or consent of the instructor. The course is designed to introduce to engineers and/or scientists of various disciplines the fluid mechanical aspect of pollution problems. The lectures will discuss in depth the fluid dynamics of photochemical smog, oil slicks and pollution in waterways.

Mr. Liu (Sp, even years)

252A. Stability of Fluid Motion. (Formerly numbered Engineering 252A.) Prerequisite: Engineering 150A or equivalent or consent of the instructor. Mechanisms by which laminar flows can become unstable and lead to secondary motions. Linear stability theory; thermal, centrifugal, and shear instabilities; boundary layer instability. Nonlinear aspects: sufficient criteria for stability, subcritical instabilities, supercritical states, transition to turbulence.

Mr. Kelly (W)

252B. Statistical Theory of Turbulence. (Formerly numbered Engineering 252B.) Prerequisite: Engineering 150A or consent of the instructor. The course develops statistical methods of wide utility in engineering, particularly in the study of turbulent flows. Topics covered are stochastic processes, kinematics of turbulence, energy decay, Kolmogorov similarity, analytical theories, and origins of Reynolds stresses.

Mr. Crow, Mr. Meecham (Sp, even years)

252D. Engineering Magnetohydrodynamics. (Formerly numbered Engineering 252D.) Prerequisite: Engineering 117A and Mechanics and Structures 250A or consent of the instructor. Continuum theory of the motion of an electrically conducting fluid. A magnetic field; typical solutions for incompressible and compressible flow; elements of the theory of conductivity in a plasma; propulsion and power generation applications.

Mr. Kelly, Mr. Meecham (Sp, even years)

253A. Advanced Engineering Acoustics. (Formerly numbered Engineering 253A.) Advanced studies in Engineering Acoustics includes: three-dimensional wave propagation; propagation in bounded media; Ray acoustics; attenuation mechanisms in fluids.

Mr. Stern (F)


Mr. Meecham (W)

253C. Sound and Vibration. (Formerly numbered Engineering 253C.) Prerequisite: Engineering 153A or 153B, or consent of the instructor. Theoretical and practical aspects of the interaction of sound and mechanical vibrations and 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 (W)

254A. Special Topics in Aerodynamics. (Formerly numbered Engineering 254A.) Prerequisite: Engineering 150A-150B, 192A-192B-192C or equivalent or consent of the instructor. Special topics of current interest in advanced aerodynamics. Examples are transonic flow, hypersonic flow, sonic booms, and unsteady aerodynamics.

Mr. Cole (F)

254B. Experimental Techniques in Fluid Mechanics. (Formerly numbered Engineering 254B.) Prerequisites: one of Engineering 150AB or Mechanics and Structures 250AB. Course will study the design and operating ranges of wind tunnels, water tunnels, and unsteady flow facilities. It will include laboratory demonstrations and field trips. Modern instrumentation techniques and typical fluids experiments will be studied and critiqued.

Mr. Barker, Mr. Charwat (Sp)

255A. Advanced Dynamics. (Formerly numbered Engineering 255A.) Prerequisite: Engineering 155A or 155B and 159A, or consent of the instructor. Variational principles and Lagrange's equations. Kinematics and dynamics of rigid bodies; procession and nutation of spinning bodies; Mr. Mingori (F)

255B. Mathematical Methods in Dynamics. (Formerly numbered Engineering 255B.) Prerequisite: Mechanics and Structures 250A. (Not the same as 255B prior to Spring Quarter 1973.) Concepts of stability; state space interpretation; stability determined by integration methods and Liapunov's Direct Method; the Hamiltonian as a Liapunov function; nonautonomous systems; averaging and perturbation methods of nonlinear analysis; parametric excitation, and resonance. Application to mechanical systems.

Mr. Gibson, Mr. Mingori (W)

256A. Mechanics of Deformable Solids. (Formerly numbered Engineering 256A.) Prerequisite: Engineering 158A or consent of the instructor. Stress and strain tensors, indetical notation, compatibility conditions, equations of motion. Work and energy, uniqueness of solution and extremum principles. Constitutive laws of isotropic elastic solids, thermodynamics, linear viscoelasticity and incremental plasticity.

Mr. Mal, Mr. Muki (F)

256B. Elasticity. (Formerly numbered Engineering 256B.) (Not the same as course 256 prior to Winter Quarter 1970) Prerequisite: Mechanics and Structures 250A or 250B, or consent of the instructor. Formulation of elastostatic problems; general, plane strain, plane stress. Reciprocal theorems; Airy's stress function; fundamental solutions; Neuber's yield criterion. Fundamental singular solutions, stress concentration, thermal stresses, elastic contact, load transfer, St. Venant's principle and applications.

Mr. Muki, Mr. Nelson (W)

256C. Plasticity, Creep and Thermal Stresses. (Formerly numbered Engineering 256C.) Prerequisite: Engineering 156A or 158A or consent of the instructor. Incremental plastic stress-strain relations. Stress-strain-time relations commonly used in structural analysis. Unified treatment of plastic
strain, creep strain and thermal strain. Elastic-plastic and creep analyses of beams, columns, shafts, frames and plates.

Mr. Lin (Sp, even years)

1256F. Analytical Fracture Mechanics. (Formerly numbered Engineering 256F.) Prerequisites: Mechanics and Structures 265A or consent of the instructor. Review of modern fracture mechanics, elementary stress analyses; analytical and numerical methods for calculation of crack tip stress intensity factors; engineering applications in stiffened structures, pressure vessels, plates and shells. Mr. Westmann

M257A. Elastic Wave Propagation I. (Formerly numbered Engineering M257A.) (Same as Earth and Space Sciences M224A.) Prerequisite: Engineering 259A or consent of the instructor. Elastic wave equation and elementary solutions; wave motions in elastic half-spaces; reflection and refraction of elastic waves; surface waves; vibrations of rods and plates.

Mr. Mal (W, even years)

M257B. Elastic Wave Propagation II. (Formerly numbered Engineering M257B.) (Same as Earth and Space Sciences M224B.) Prerequisite: consent of the instructor. Wave propagation in layered media; Green's functions for various geometrical patterns; propagation and scattering of elastic waves; attenuation; inversion problems. Mr. Mal (Sp, even years)

258A. Continuum Mechanics I. (Formerly numbered Engineering 258A.) Prerequisite: Mechanics and Structures 256A or 256B, Engineering 291A, or consent of the instructor. Motion of an elastic body, tensorial, spatial and relative description; polar decomposition theorem. Cauchy-Green, stretching strain (vorticity), stress, and couple-stress tensor. Balance principles, mass, linear and angular momentum energy. Entropy production. Mr. Morgan (F)


1259A. Seminar on Advanced Topics in Fluid Mechanics. (Formerly numbered Engineering 259A.) Prerequisite: consent of the instructor. To study advanced topics in fluid mechanics with intensive student participation, involving assignment, oral presentation, leading to a poster or an oral presentation and possible help from guest lecturers. Mr. Cole, Mr. Kelly

1259B. Seminar on Advanced Topics in Solid Mechanics. (Formerly numbered Engineering 259B.) Prerequisite: consent of the 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. Lin, Mr. Muki

262A. Advanced Mechanics and Mechanical Systems. (Formerly numbered Engineering 262A.) Prerequisite: Engineering 162A. The kinematic analysis and synthesis of mechanisms and mechanical systems with special emphasis on use of modern analytical methods to be considered. The use of computer techniques is discussed. A group of example systems are studied.

Mr. Dubowsky (Sp, even years)

263A. Dynamics and Control of Machines and Electromechanical Systems. (Formerly numbered Engineering 263A.) Prerequisite: Engineering 259A or consent of the instructor. The analysis of complex machines and electromechanical systems. Emphasis of the performance and dynamic response of systems containing gear, elasto-plastic, active feedback elements, and other complex components and subsystems. Both classical methods and modern computer-based techniques are applied.

Mr. Dubowsky

263B. Vehicle Dynamics and Control. (Formerly numbered Engineering 263B.) Prerequisite: Engineering 163. Mechanics and Structures 255B recommended. Application to a variety of vehicles of advanced methods of dynamics and motion stability analysis, incorporating both classical and modern control theory. Topics are given to space vehicles and ground transportation vehicles, with special attention to current topics in these fields.

Mr. R.R. Allen (Sp, even years)

264A. Theory of Plates and Shells. (Formerly numbered Engineering 264A.) Prerequisite: Engineering 158A, 166, or consent of the instructor. Small and large deformation theories of thin plates; energy methods; free vibrations; membrane theory of shells; axisymmetric deformations of cylindrical and spherical shells; bending of plates. Mr. Nelson, Mr. Roberts (W)

264B. Advanced Theory of Shells. (Formerly numbered Engineering 264B.) Prerequisite: Mechanics and Structures 264A or consent of the instructor. Elements of differential geometry for surfaces; fundamental field equations for small deformations of thin shells; applications to shells of revolution; free vibrations; selected current topics in shell theory research.

Mr. Nelson, Mr. Roberts

265A. Advanced Structural Analysis. (Formerly numbered Engineering 265A.) Prerequisite: Engineering 165B. Review of elasticity theory; theorem on virtual work, stationary value of potential and complementary energy; classical 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, Mr. Schmit (F)

265B. Finite Element Analysis of Structures. (Formerly numbered Engineering 265B.) Prerequisites: Engineering 166; Mechanics and Structures 265A or consent of instructor. Direct energy formulations for deformable systems; one-dimensional, two-dimensional, and three-dimensional. Linear and nonlinear equations; analysis of structural systems with one dimensional elements; introduction to variational calculus, discrete element displacement, force, and mixed methods for membrane, plate, shell structural instability effects.

Mr. Dong, Mr. Schmit (W)

265C. Nonlinear Structural Analysis. (Formerly numbered Engineering 265C.) Prerequisite: Mechanics and Structures 265B or consent of instructor. Continuum mechanics, including material nonlinearities; conservative, nonconservative material behavior; geometric nonlinearities, Lagrangian, Eulerian description of motion; finite element method; numerically nonlinear problems; postbuckling behavior of structural members; solution of nonlinear equations; incremental, iterative, programming methods.

Mr. Dong, Mr. Schmit (Sp)


Mr. Dong, Mr. Schmit (Sp)

266B. Stability of Structures II. (Formerly numbered Engineering 266B.) Prerequisite: Mechanics and Structures 266A. Continuation of the structural stability theory of course 266A, applied to rings, plates, and shells, dynamic stability of elements subject to transient and periodic forces.

Mr. Dong, Mr. Nelson (W)

267A. Optimum Structural Design. (Formerly numbered Engineering 267A.) 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. Felton, Mr. Schmit (W)

267B. Advanced Topics in Optimum Structural Design. (Formerly numbered Engineering 267B.) Prerequisite: Mechanics and Structures 267A. Recent advances in structural synthesis, hybrid methods and approximation concepts; optimum prestressing; optimum design of laminates; composite materials and design considerations; aeroelastic and dynamic response constraints; applications, and current research.

Mr. Felton, Mr. Schmit


Mr. Selna (Sp)


Mr. Rea (W)

268A. Experimental Structural Analysis. (Formerly numbered Engineering 268A.) 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 photomechanics.

Mr. Turton, Mr. Fourney


Mr. Sines


Mr. Dong, Mr. Friedman (F)


Mr. Dong, Mr. Friedman (W)

269C. Introduction to Probabilistic Dynamics. (Formerly numbered Engineering 269C.) Prerequisite: Engineering 169A. Introduction to probabilistic models and methods for use in structural and mechanical systems to random vibrations. Stationary and nonstationary excitations. Response of systems with random parameters. Discrete and continuous. Linear and nonlinear. Applications to earthquake vibrations, wind sway of buildings, and other vibrations due to gearing inaccuracies, train vibrations.

Mr. Friedman, Mr. Hart (Sp, even years)
286D. Earth Pressures and Earth Retaining Structures. (Formerly numbered Engineering 285D.) Prerequisite: Engineering 195A. Graduate standing. The basic concepts of the theory of earth pressures behind retaining structures is presented with special application to the design of retaining walls, bulkheads and excavation bracing; the effects of flexibility of bulkhead, creeps in soils and construction techniques are also discussed in detail. The Staff, Mechanics and Structures Department (Sp, even years)

285D. Soil Dynamics. (Formerly numbered Engineering 285C.) Prerequisite: Engineering 185A; Mechanics and Structures 285A. Design of foundations for vibration resistant structures, stress and strain relations for soil under cyclic loading conditions. Fundamentals of earthquakes as applied to seismic response of earth structures and foundation design of retaining walls, and foundations for earthquake loading. The Staff, Mechanics and Structures Department (Sp, Evn, even years)

1285E. Seminar on Advanced Topics in Soil Mechanics. (Formerly numbered Engineering 285E.) Prerequisites: graduate standing in Engineering and consent of the instructor. Topics may vary from term to term to cover subjects as earth data reduction, soil consolidation, constitutive laws, finite differences, and far fields. Mr. Lade, Mr. Westmann (F, odd years)

1285L. Advanced Soil Mechanics Laboratory. (Formerly numbered Engineering 285L.) Lecture: one hour; laboratory, six hours. Prerequisites: Engineering 185A, 185B; Mechanics and Structures 285A, 285B. Lectures and laboratory studies of advanced soil mechanics, interpretation of their application to design. Permeability, consolidation, strength testing, pore water pressure measurements, advanced instrumentation and measurement techniques. Preparation of engineering reports. Mr. Lade.

286A. Structural Response to Ground Motions. (Formerly numbered Engineering 286A.) Prerequisites: Mechanics and Structures 256A or 265A or 285A or Engineering 169A. Engineering seismology: strong earth quake motion, microseismic, 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. Duke, Mr. Hart (W)

286B. Structural Response to Ground Motions. (Formerly numbered Engineering 286B.) Prerequisites: Mechanics and Structures 269A or consent of the instructor. Spectral analysis of ground motions; response, time and Fourier spectra. Response of structures to ground motions due to earthquakes. Development of computational methods to evaluate structural response. Response analysis including evaluation of contemporary design standards. Limitations due to idealization of structural systems. Mr. Lade (F)


M292A. Asymptotic and Perturbation Methods I. (Formerly numbered Engineering M292A.) (Same as Mathematics M274A.) Prerequisite: Engineering 192A or equivalent. Mathematics 132 or equivalent. The fundamental mathematics of asymptotic analysis, asymptotic expansions of Fourier integrals, method of stationary phase, Watson's lemma, both local and uniform, asymptotic expansions, elementary perturbation problems. Mr. Cole, Mr. Muki (F)

M292B. Asymptotic and Perturbation Methods II. (Formerly numbered Engineering M292B.) (Same as Mathematics M274B.) Prerequisite: Engineering 192A or equivalent. Mathematics 132 or equivalent. The fundamental mathematics of asymptotic analysis, limit process expansions, regular and singular perturbation problems, matching of asymptotic expansions methods; application to partial differential equations, near and far fields. Mr. Cole, Mr. Muki (W)

220A. Graphs and Network Flows. (Formerly numbered Engineering 220A.) Prerequisite: Engineering 129L recommended or consent of instructor. Solution to analysis and synthesis problems which may be formulated as flow problems in capacity constrained (or cost constrained) networks. Tools of network flow theory are developed using graph theoretic methods and are applied to communication, transportation and transmission problems. Ms. Greibach, Mr. Jacobsen, Mr. Rubin (W)

221. Linear Optimal Control. (Formerly numbered Engineering 221E.) Prerequisite: Engineering 128A, Engineering 222A or equivalent. An introduction to optimal control, with emphasis on detailed study of LQR, or linear regulators with quadratic cost criteria. Relationships to classical control system design. Mr. Balakrishnan, Mr. Mortensen, Mr. Wang (W,Sp)

222A. Nonlinear Control. (Formerly numbered Engineering 222A.) Prerequisite: System Science 221. Techniques for studying nonlinear control systems, with emphasis on the stability, Liapunov's direct method; input-output stability; Popov's method; linearization. Mr. Aoki, Mr. Wang (F)

222B. Stochastic Control. (Formerly numbered Engineering 222B.) Prerequisite: Engineering 120B and System Science 222A. Estimation and control; linear discrete-time and continuous-time stochastic systems; separation theorem and applications; Kalman filtering. Mr. Aoki, Mr. Balakrishnan, Mr. Mortensen (F,Sp)

222C. Optimal Control. (Formerly numbered Engineering 222C.) Prerequisite: System Science 222B. Applications of variational methods. Pontryagin's maximum principle, dynamic programming and nonlinear programming to problems of optimal control theory and practical systems. Mr. Balakrishnan, Mr. Wang, Mr. Wiberg (W)

222EA-222EZ. Topics in Control. (Formerly numbered Engineering 222E.) Prerequisite: consent of the instructor, and additional prerequisites for each offering as announced in advance by the Department of System Science. Thorroug treatment of one or more aspects of control theory and applications, such as computational methods, theory and applications of control; stability of distributed systems; identification, adaptive control; nonlinear filtering; differential games; applications to flight control, nuclear reactors, process control, biomedical models. May be repeated for credit with topic changes in different years. Mr. Balakrishnan (F,Sp)

M222F. Biological Control Systems. (Formerly numbered Engineering M222F.) (Same as Anesthesiology M222.) Prerequisite: Engineering 122A or equivalent. Introduction to the application of control theory to the modeling and analysis of biological control systems, such as the respiratory system, cardiovascular system and neuromuscular system. Emphasis on solving problems of current interest in biomedicine. Mr. Wiberg (Sp)

M222G. Control and Coordination in Economics. (Formerly numbered Engineering M222G.) (Same as Economics M222.) Prerequisite: graduate standing in Economics or Engineering, consent of the instructor. Appropriate mathematics course recommended. Stabilization policies, short- and long-run dynamic optimization and stability analysis, coordination in teams; certainty equivalence and separation theorems; stochastic and learning models, Bayesian approach to price and output rate adjustment. Mr. Aoki (Sp)

227A. Signal Detection and Digital Communication. (Formerly numbered Engineering 227A.) Prerequisite: Engineering 120B or consent of the 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; binarity and multiple signal digital communication; sequential detection. Mr. Carlyle, Mr. Yao (F)

227B. Information Theory and Coding. (Formerly numbered Computer Science 227D) Prerequisite: Computer Science 227A. Information theory and coding from the viewpoint of digital communication systems; digital transmission and block coding; linear codes; convolutional codes; maximum likelihood decoding; ensemble performance bounds of block and convolutional codes. Mr. Massey, Mr. Omura (W)

227C. Estimation and Filtering. (Formerly numbered Engineering 227C) Prerequisite: Engineering 128D or equivalent. Methods of estimation and filtering, including: minimum mean-square error estimation in Gaussian noise; optimal linear estimation; introduction to probabilistic decision theory; introduction to stochastic processes; properties of time-domain and frequency-domain random processes. Mr. Balakrishnan, Mr. Mortensen, Mr. Yao (Sp)

227EA-227EZ. Topics in Communication. (Formerly numbered Engineering 227E) Prerequisite: consent of the instructor. Additional prerequisites or requirements for each offering as announced in advance by the Department of System Science. May be repeated for credit when no duplication exists. Mr. Massey (W,Sp)

227F. Algebraic Coding Theory. (Formerly numbered Engineering 227F) Prerequisite: System Science 227B or consent of the instructor. Fundamentals of linear and parity-check codes and decoding algorithms based on the algebraic theory of finite groups and fields; cyclic codes; Hamming, Reed-Muller, Bose-Chaudhuri-Hocquenghen, and Reed-Solomon codes, and corresponding decoding algorithms. Mr. Massey (F)

228A. Foundations of Continuous-State System Theory. (Formerly numbered Engineering 228A.) Prerequisite: Engineering 128A and 291A or equivalent. Introduction to the viewpoint of digital communication systems; digital transmission and block coding; linear codes; convolutional codes; maximum likelihood decoding; ensemble performance bounds of block and convolutional codes. Mr. Balakrishnan, Mr. Mortensen (Sp)

228EA-228EZ. Topics in Communication. (Formerly numbered Engineering 228E) Prerequisite: consent of the instructor. Additional prerequisites or requirements for each offering as announced in advance by the Department of System Science. May be repeated for credit when no duplication exists. Mr. Balakrishnan, Mr. Jacobson (W,Sp)

228L. Large Systems. (Formerly numbered Engineering 228L.) Prerequisite: Engineering 128L or 129L or equivalent. Consent of the instructor. Basic graduate course in large systems. Exploration of the relevance of system science methodologies to research activities directed toward improvements in the systems that provide such services as: data transmission, data communication, housing, environmental quality, and public safety services in urban areas. Mr. Chakken, Mr. Rubin (229F; 229K W; 229L Sp)

229A. Nonlinear Programming. (Formerly numbered Engineering 229A.) Prerequisite: consent of the instructor. Basic graduate course in nonlinear programming. Convex sets and functions and their properties; convex programming and dual linear and nonlinear conjugate duality theory. Mr. Jacobson, Mr. Miller, Mr. Subelman (W)

227A. Dynamic Programming. (Formerly numbered Engineering 227A) Prerequisite: Engineering 128A or equivalent. Dynamic programming and its applications. Mr. Miller, Mr. Subelman (Sp)

227B. Information Theory and Coding. (Formerly numbered Computer Science 227B) Prerequisite: consent of the instructor. Additional prerequisites or requirements for each offering as announced in advance by the Department of System Science. Treatment of one or more selected topics from areas such as: information theory; computational optimization; network synthesis; scheduling, routing, location and design problems; implementation considerations for mathematical programming algorithms; stochastic programming; applications to engineering, economics, etc. May be repeated for credit when no duplication exists. Mr. Jacobsen, Mr. Subelman (F,Sp)

227C. Optimization Methods for Large-Scale Systems. (Formerly numbered Engineering 227C) Prerequisite: Engineering 129L and System Science 227A or consent of the instructor. Theory and computational procedures for decomposing large-scale mathematical programming problems. Generalized linear programming algorithms, relaxations of constraints and their generalizations, regular expressions, transduction expressions, realizability, decomposition, synthesis, and design considerations; topics in state and system identification and control problems; linear machines, properties of correlation functions in communication, computing, system modeling and simulation. Mr. Carlyle, Mr. Massey (W)

229A. Numerical Techniques in Systems Optimization. (Formerly numbered Engineering 229A) Prerequisite: Engineering 291A; Engineering 129A or System Science 272A or similar background recommended. Computational methods for constrained extrema of functionals. Mr. Balakrishnan, Mr. Kaprl (F)

229B. Functional Analysis and Optimization. (Formerly numbered Engineering 229B) Prerequisite: Engineering 291A and consent of the instructor. Functional analysis approach to optimization problems for dynamic systems—lumped and distributed. Emphasis on computational aspects. Mr. Balakrishnan, Mr. Levan (W)

229C. Stochastic Differential Systems. (Formerly numbered Engineering 229C) Prerequisite: Engineering 120B, System Science M272B, Engineering 291A or equivalent, and consent of the instructor. Integration with respect to continuous-parameter martingales; Radon-Nikodym derivatives in metric spaces; applications to filtering and stochastic control. Mr. Balakrishnan, Mr. Mortensen (Sp)

229EA-229EZ. Topics in Design. (Formerly numbered Engineering 229E) Prerequisite: consent of the instructor, and additional prerequisites or requirements for each offering as announced in advance by the Department of System Science. May be repeated for credit when no duplication exists. Mr. Carlyle (F)

229F. Probability Theory for Applications. (Formerly numbered Engineering 229F) Prerequisite: Engineering 129A or equivalent. Matrix treatment of linear hypotheses in engineering experimentation. Statistical estimation, tests of hypotheses, analysis of variance, and experimental design. Multivariate normal distribution; Markov decision processes; optimization in stochastic processes; applications in operations research, system analysis, inventory and replacement problems, decision fields; point process theory with application to signal detection, queueing and communication networks. May be repeated for credit when no duplication exists. Mr. Miller, Mr. Subelman (Sp)

229J. Statistical Design of Engineering Experiments. (Formerly numbered Engineering 229J) Prerequisite: Engineering 229C. Design of experiments including: analysis of variance, regression models, randomized blocks, factorial, Latin square, multiple factor and level experiments. Principles of orthogonality, confounding, fractional replication, latin square and complete block designs with engineering applications. Mr. Miller, Mr. Carlyle (F)

229K. Reliability Theory with Applications. (Formerly numbered Engineering Systems 275K) 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, maintainable systems, reliability safety considerations in engineering design. Statistical methods, current topics. Mr. Miller, Mr. Subelman (Sp)

229L. Reliability Theory with Applications. (Formerly numbered Engineering Systems 275L) 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, maintainable systems, reliability safety considerations in engineering design. Statistical methods, current topics. Mr. Miller, Mr. Subelman (Sp)

M284A. Context-Free Languages. (Formerly numbered Engineering 228E) Prerequisite: consent of the instructor. Additional prerequisites or requirements for each offering as announced in advance by the Department of System Science. Treatment of one or more selected topics from areas such as: various aspects of context-free languages; grammars, derivations, ambiguity, unilinearity, ambilinearity, closure properties; pushdown acceptors; topics from parsing, deterministic machines and languages, LR (k) grammars, macrogrammars. Mr. Friedman, Mr. Greibach (W)

284X. Topics in Automata and Languages. (Formerly numbered Engineering 228X) Prerequisite: consent of the instructor, and additional
prerequisites for each offering, as announced in advance by the Department of System Science. Comprehensive treatment of one or more topics from areas such as: families of formal languages and operators; real-time computation; resource-bounded complexity; matroid theory; grammars, data structures, programs, semantics; picture grammars and pattern recognition; biological models and development systems. May be repeated for credit when topic changes.

Mr. Carlyle, Ms. Greibach (Sp)

1M285A. Automatic Deduction: Theory and Applications. (Formerly numbered Engineering 223D) (Same as Computer Science M285A) Prerequisite: some knowledge of logic. List-processing strategies. Fundamental meta theorems. Rules of inference. Primarily intended for computer science and mathematics graduate and senior undergraduate students. May be repeated for credit when topic changes.

Mr. Friedman, Ms. Greibach (Sp)

M297A. Theory of Program Structure. (Same as Computer Science M297A) (Formerly numbered Engineering 123B) Prerequisite: Computer Science M123B or Engineering M123B. Models of computer programs. Design and analysis of programs. Applications to programs. Emphasis on programs and recursion schemes, equivalence, optimization, correctness and translatable programs; expressive power of program constructs through the use of constructs and current topics.

Ms. Friedman, Ms. Greibach (Sp)


Mr. Levan, Mr. Morgan (F, W)

M291B. Analytical Methods of Engineering II. (Formerly numbered Engineering 291B) (Same as Mechanics and Structures M291B) Prerequisite: Mechanics and Structures M291A or System Engineering M291A or consent of the instructor. Application of modern mathematical methods to engineering problems. Review of Spectral theory. Green’s functions and eigenvalue problems for second-order differential equations; applications to various problems in engineering.

Mr. Levan, Mr. Morgan (F, W)

501. Cooperative Program. (5 to 2 courses) Prerequisite: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

The Staff

1M470A-470D. The Engineer in the Technical Environment. (4 course each) Prerequisite: acceptance by the Engineering Executive Program. Theory and application of quantitative methods in the analysis and synthesis of engineering systems for the purpose of making management decisions. Optimization of outputs with respect to dollar cost of implementation, personnel, labor information and manpower. Includes case studies and individual projects.

Mr. O’Neill

1M471A-471B-471C-471D. The Engineer in the General Environment. (4, 4, 4, 3 courses) Prerequisite: acceptance by the Engineering Executive Program. Influences of human relations, laws, social sciences, humanities, and fine arts on the development and utilization of natural and human resources. The interaction of technology and society past, present and future.

1M472A-472B-472C-472D. The Engineer in the Business Environment. (4, 4, 4, 3 courses) Prerequisite: acceptance in the Engineering Executive Program. The language of business for the engineering executive. Accounting, finance, business administration, 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 with California business corporations and government agencies. 472A-B and 472C-D are offered on an In Progress basis, which requires students to complete the full 2-quarter sequence. At the end of each sequence a grade will be given.

Mr. Ruskin

1M473A-473B. Analysis and Synthesis of a Large Scale System. (4 course each) Prerequisite: acceptance in the Engineering Executive Program. Credit to be given only upon completion of 473B. A problem and generation for M.S. comprehensive examination 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's grading.

Mr. Levan, Mr. Morgan (Sp)

596. Directed Individual or Tutorial Studies. (5 to 2 courses) Prerequisite: graduate status in engineering; consent of the instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised investigation of advanced technical problems. To be graded on a S/U basis.

The Staff

597. Preparation for M.S. Comprehensive Examination. (5 to 3 courses) Prerequisite: graduate status in engineering; consent of the instructor. Reading and preparation for M.S. comprehensive examination. To be graded on a S/U basis.

The Staff

597B. Preparation for Ph.D. Preliminary Examinations. (5 to 4 courses) Prerequisite: graduate status in engineering; consent of the instructor.

The Staff

597C. Preparation for Ph.D. Oral Qualifying Examination. (5 to 4 courses) Prerequisite: graduate status in engineering; consent of the instructor.

The Staff

598. Research for and Preparation of the Master’s Thesis. (5 to 3 courses) Prerequisite: graduate status in engineering; consent of the instructor. Supervised independent research for M.S. candidates, including thesis prospectus. To be graded on a S/U basis.

The Staff

599. Research for and Preparation of the Doctoral Dissertation. (5 to 4 courses) Prerequisite: graduate status in engineering; consent of the instructor. Usually taken after student has been advanced to candidacy. To be graded on a S/U basis.

The Staff (F, W, Sp)

Interdisciplinary Courses


Mr. Westman (Sp)

298. Seminar in Engineering. (5 to 1 course) Prerequisite: graduate status in engineering; consent of the instructor. Seminar topics may be organized in advanced technical fields. Applications to problems may be repeated without duplication for credit. May be repeated for credit. Field trips may be arranged.

The Staff, The School of Engineering and Applied Science

495. Teaching Assistant Training Seminar. Prerequisite: 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 and advising and rapport with the students. To be graded on a S/U basis only.

Mr. Willson (F)
English as a Second Language

(Section Office, 3303 Rolfe Hall)

J. Donald Bowen, Ph.D., Professor of English
Russell Norman Campbell, Ph.D., Professor of English (vice-Chairman of the Department)
John Frederick Paves, Ph.D., Professor of English
Clifford Holmes Praates, Ph.D., Professor of English
Lois McNamara, Ph.D., Emeritus Professor of English
Marianne Colaco Marcia, Ph.D., Associate Professor of English
Evelyn R. Hatch, Ph.D., Associate Professor of English
Earl James Rand, Ph.D., Associate Professor of English
Maria H. Hinton, Ph.D., Assistant Professor of English
John H. Schumann, Ph.D., Assistant Professor of English
Joseph L. Galvin, A.B., Lecturer in English

• Peter Ladefoged, Ph.D., Professor of Phonetics

Admission to Courses in English

Students must have completed the Subject A requirement before taking any courses in English (other than English A or English 1). Reference to Subject A as a prerequisite in the following pages alludes to the Subject A requirement. For regulations concerning Subject A, see index.

Preparation for the Major

Requirements: English 3, 4 or 20, 10A, 10B, and 10C taken in the stated sequence (each course is a prerequisite for the next course). Completion of English 3 or 4 normally satisfies the College of Letters and Science "D" requirement in English composition. Completion of English 3 and 4 satisfies the College of Fine Arts English composition requirement (see under College requirements for details).

Extra-Departmental Requirement for Foreign Literature or Foreign Language Background

All English majors must have completed either (1) the fifth course or its equivalent in any one foreign language or (2) any combination of five courses in foreign language and foreign literature, including foreign literature in Translation and Humanitics (see Courses of Instruction). These courses may be taken P/NP. High school foreign language courses count toward option 1, but not option 2.

The Major

Requirements: English 141A (Chaucer), 142A and 142B (Shakespeare), and 143 (Milton), at least one "Specialized Study" course from the 180 series, and a minimum of seven additional upper division English courses. At least five of the seven courses must be chosen from the courses numbered 150-190. At least one of the seven courses must be in literature before 1800 (the 150 series).

All majors are encouraged to choose additional electives from the courses numbered 140 through 190. English 140 (Literary Criticism) is especially recommended for students intending graduate work in literature.

Special Programs

The Department offers special programs in American Studies and General Literature, for both of which the regular "Preparation for the Major" sequence as well as the departmental foreign language requirement applies. Because of the specialized nature of these programs, students planning to do graduate work in English should consult with the departmental adviser 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 (Interdisciplinary Approaches to Literature); 142A and 142B (Shakespeare); three courses chosen from 170, 171, 172, 173, 174 (the historical sequence in American literature): 175 (Perspectives in the Study of American Culture); and one course pertaining to "American Studies" chosen from the 180 series (Specialized Studies) or the 190 offerings (Literature in Translation and Humanitics). This sequence can be taken preferably in the senior year. Of the six upper division courses in other departments, four must be in a selected discipline (history, political science, art, etc.). One of these four courses must be a course numbered 160, and the other three must explicitly treat American culture. With history as the secondary discipline, for example, students could choose History 181-182 (The Civil War), History 184 (History of Religion in the United States), History 186 (History of Religion in the United States), History 180-180K (History of American Architecture and Urban Planning), and History 182 (The Immigrant in America). These courses must be chosen in consultation with the English departmental adviser. A complete listing of acceptable courses in the various secondary disciplines may be obtained from the Department of English (Rolfe Hall 2225).

Creative Writing Major

Students in this major must satisfy all requirements listed under "Preparation for the Major" including the foreign language requirement. This major consists of 142A and 142B (Shakespeare); and a minimum of ten additional upper division English courses: three creative writing courses from the 133-135 series; three literature courses parallelizing the specialization (the following pairings are recommended: 100A and 101B with 133; 100C and 101C with 134; and 100B and 101D with 135); and four electives chosen from courses numbered 140 through 190 (students intending graduate work in literature are especially encouraged to take English 140). A listing of acceptable courses arranged into possible emphases under this major may be obtained from the Department of English (Rolfe Hall 2225).

Major for Foreign Students

The Department offers a special major in English open optionally to bona fide foreign students whose first language is other than English. Students in this major must satisfy all requirements listed under "Preparation for the Major" including the foreign language requirement, and a minimum of ten additional upper division English courses: three creative writing courses from the 133-135 series, taken in a single genre (poetry, short story, or drama); three literature courses parallelizing the specialization (the following pairings are recommended: 100A and 101B with 133; 100C and 101C with 134; and 100B and 101D with 135); and four electives chosen from courses numbered 140 through 190 (students intending graduate work in literature are especially encouraged to take English 140). A complete listing of acceptable courses arranged into possible emphases under this major may be obtained from the Department of English (Rolfe Hall 2225).

Requirements for Admission to Graduate Courses

The requirement is ordinarily a distinguished undergraduate record in English. Prospective graduate students are required to take the Graduate Record Examination (GRE). In some cases students who expect to graduate with departmental honors are required to take two courses in the 180 series, and one Special Study tutorial (English 991).

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Requirements for the Master’s Degree

1. For general requirements, see the statement of the Graduate Division (above). The master’s program is not preliminary to the doctoral program and students seeking the Ph.D. should apply directly for that program. In a few cases students who have done very well in the M.A. program have been permitted to petition the Department to enter the Ph.D. program. The Department follows the Comprehensive Examination Plan; see statement of the Graduate Division (above). Examinations for the M.A. are given three times a year.

2. Course Requirements: Nine courses are required for the master’s degree, of which must be in the graduate level (200 or above). These nine courses must include one course in literary criticism (English 140, 201, or 259) and three graduate courses in literary history (English 220-259), two of which must deal with periods before 1900, and two of which must be historically contiguous (for example, 224 and 225).

3. Major Fields. The course requirements for the M.A. are highly flexible, in order to permit the student to choose a course of study which is consonant with his or her primary interests. Recommended electives for certain special fields of interest are suggested below. Students planning to enter community college teaching should select courses numbered 120A-120B or 270B, which provide supervised teaching experience in the community colleges. Since enrollment in these courses is by instructor’s consent, students are advised to consult the instructor early in the fall quarter of the year in which they desire to take the course. They should also note that English 275 is a prerequisite for 270A and 270B.

(a) Language: English 120-123, 130, 190, 210-213, 240-242, 250K, 272, 274.
(b) Creative Writing: English 133-135.
(c) English for Minority Groups: English 109K, 114, 122, 123, 130, 190; Education 102; Linguistics 100, 170; Sociology 124, 155.
The Ph.D. is primarily a research degree and the Department's program is designed to prepare students for teaching in college and at the university level. Qualifying examinations are given twice a year.

2. Foreign Language. In addition to fulfilling the departmental philology requirements, students will normally be expected to have a reading knowledge of one modern or classical language (Italian, Spanish, Greek, or Latin). Instead of the two language requirement, students may elect to pursue study of a single language in order to attain a superior level of proficiency in this area and the possibility of offering a second language other than those named above, the student should consult the Vice-Chairman for Graduate Studies.

3. Departmental Program, First Stage. In the first stage, which leads to the master's degree, the student must take a minimum of nine English courses from the 200 series. Two courses, 200 and 210, are required. Students entering with an M.A. in English are presumed to have fulfilled the nine-course requirement, but must take 200 and 210 or their equivalents.

4. Departmental Program, The Candidate Stage. In this stage of the program, the student must take two other courses from those numbered 211-215 and 240-242. This so-called philology requirement may be taken at any time during the first stage of the program, but before the Second Qualifying Examination. Students with an interest in the fields of Anglo-Saxon or Medieval literature should take the introductory courses in these areas (211-215) as early as possible.

5. Comprehensive Examination. Upon completion of all requirements, the candidate is given a comprehensive oral examination of no more than one and one-half hours, to test his or her comprehension of the major literary documents presented during graduate study. It consists of an oral examination from a body of work of literature. The examining committee consists of three faculty members appointed by the Vice-Chairman for Graduate Studies. The candidate writes a paper (8-10 pages in length) on a subject set in consultation with the committee chairman, and distributes it to the committee one week before the examination. The examination consists of ten questions selected by the student from the lists below.

**Lower Division Courses**

1. **Basic Review of English Usage (No credit).** English A displaces 4 units on the student's study list and the student is awarded a minimum of 3-5 page papers. In English A is offered only on a P/NP basis and is required of students with low scores on the Subject A Placement Test. Instruction in standard English usage, including practice in sentence and paragraph construction, diction, punctuation, and spelling. Workshops in writing and revising. Completion of this course or demonstration of minimum competence in composition on the Subject A Placement Test is a prerequisite for English 1.

2. **Fundamentals of Exposition.** (Is course) Prerequisite: English A or qualifying score on Subject A Placement Test. English 1 displaces 4 units on the student's study list but yields only 2 units toward a degree. A course designed to develop proficiency in expository writing required for successful University work. Lectures, readings, class discussions, and assignments in writing and revision. Successful completion of this course meets the Subject A requirement.

3. **English Composition, Rhetoric and Language.** (Formerly numbered 1A-1B.) Prerequisite: completion of Subject A requirement. Principles and methods of exposition and argumentation, with readings and analysis of passages of prose. Topics vary; special interests 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.

4. **Critical Reading and Writing.** (Formerly numbered 2.) Prerequisites: Subject A and English 3 (or its equivalent; see Departmental adviser for details). An introduction to literary analysis, with close reading and carefully written exposition of texts from one or more of the principal modes of literature: poetry, prose fiction, and drama. Minimum of six 3-5 page papers.

5. **English Literature to 1660.** Prerequisites: Subject A, English 3, and 4 or 20. A study of selected works of the period, beginning with Old English poetry and including writings by Chaucer, Spenser, Shakespeare, Donne, and Milton. Minimum of three 3-5 page papers or equivalent.

6. **English Literature, 1660-1832.** Prerequisites: Subject A, English 3, 4 or 20, and 10A. A study of selected works of the period, including writings by Dryden, Pope, Swift, Wordsworth, and Keats. Minimum of three 3-5 page papers or equivalent.

7. **English Literature, 1832 to the Present.** Prerequisites: Subject A, English 3, 4 or 20, 10A, and 10B. A study of selected works of the period, including writings by Tennyson, Arnold, Browning, Yeats, Joyce, and Eliot. Minimum of three 3-5 page papers or equivalent.

8. **Introduction to Creative Writing.** Prerequisites: Subject A and English 3 (for its equivalent). In addition to the requirements for completion of selected courses, the student must submit a portfolio of creative work; the final products may take the form of short stories, poetry, fiction, or drama, depending upon the wishes of the instructor(s) during any given quarter. Readings from assigned texts and weekly writing assignments. May be substituted in lieu of course 4 for departmental prerequisite.

9. **Major British Authors before 1800.** Prerequisite: Subject A. Not open for credit to English majors or students who have taken 10A or 10B. A study of selected masterpieces of English literature
before 1800, including the works of such writers as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, Johnson, and Fielding.

75. Major British Authors, 1800 to the Present. Prerequisite: Subject A. Not open for credit to English majors or students who have taken 108 or 10C. A study of selected works of English 1800 to the present, including the works of such writers as Wordsworth, Coleridge, Keats, Tennyson, Dickens, Browning, Yeats, Joyce, and Eliot.

80. Major American Authors. Prerequisite: Subject A. Not open for credit to English majors or students who have taken any courses in the 170 series. An introduction to the chief American men of letters, with emphasis upon the poetry, nonnarrative prose, and short fiction of such writers as Poe, Emerson, Whitman, Melville, Flannery O'Connor, and Hemingway.

85. The American Novel. Prerequisite: Subject A. Not open for credit to English majors or students who have taken 171, 172, or 174. The development, with emphasis on form, of the American novel from its beginning to the present day. Included are works of such novelists as Hawthorne, James, Fitzgerald, and Faulkner.

90. Shakespeare. Prerequisite: Subject A. Not open for credit to English majors or students who have taken 142A or 142B. A survey of Shakespeare's plays and Sonnets taken from a selection to represent Shakespeare's breadth, artistic progress, and total dramatic achievement.

Mr. Guffey, Mr. Rodes, Ms. Rowe

Upper Division Courses

Requirements: See “Admission to Courses in English” for prerequisites for courses 100-123. In addition, English 3 and 4 or 20 are prerequisites for courses 133-135. English 3, 4, or 20, 10A, 10B, and 10C, taken in the stated sequence, are prerequisites for courses 140-190.

100A. Introduction to Poetry. Prerequisite: Subject A. A study of critical issues (metrics, diction, figurative, language symbolism, irony and ambiguity, form and structure) and aesthetic issues, including evaluative criteria; followed by the close critical analysis of a selection of representative poems. This course is particularly recommended for teaching credential candidates.

Mr. Batten, Ms. Packer

100B. Introduction to Drama. Prerequisite: Subject A. 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.

Ms. Peterson

100C. Introduction to Fiction. Prerequisite: Subject A. An introduction to prose narrative, its techniques and forms. Analysis of short and long narratives, and of critical issues such as plot, characterization, setting, narrative voice, realistic and non-realistic forms. Mr. Anderson, Mr. Keys

100D. Introduction of Special Topics and Genres. Prerequisite: Subject A. A study of a particular topic, genre, or subgenre in literature, such as satire, biography, parody, or a specialized classification of literature. May be repeated for credit.

Mr. Tennyson, Mr. Thorlak

101A. Recent British Literature. Prerequisite: Subject A. Recent trends and developments in British fiction and poetry since World War II.

Mr. Keys

101B. Recent American Poetry. Prerequisite: Subject A. Recent trends and developments in American poetry since World War II.

Mr. Goldberg, Mr. Weber, Mr. Wortham

101C. Recent American Fiction. Prerequisite: Subject A. Recent trends and developments in American fiction since World War II.

Mr. Goldberg, Mr. Weber, Mr. Wortham

101D. Recent American Drama. Prerequisite: Subject A. Recent trends and developments in American drama since World War II.

Mr. Berst, Mr. Goodwin

102. The Short Story in England and America. Prerequisite: Subject A. A historical survey of the short story as a literary genre from the mid-nineteenth century to the present.

Mr. Anderson, Mr. Weber

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

Mr. Novak

104. Afro-American Literature and Black Studies. Prerequisite: Subject A. The Black experience as reflected in the development of Black American literature and the portrayal of Blacks in relations to salient cultural and social conditions. The course may explore recurrent and characteristic attitudes, themes, techniques, and genres.

Mr. Yarborough

105. The Chicano Experience in Literature. Prerequisite: Subject A. The study of literature in English by and about Chicanos. The course surveys the depiction of the Chicano experience in American literature generally and focuses on the development of Chicano literature itself, its cultural backgrounds, and distinctive uses of language.

Mr. Paredes

106. Native American Literary Studies. Prerequisite: Subject A. The study of Native American oral cultures through translated documents (song-poems, life-stories, myths, tales, dream visions, speeches) and/or the images in writing about Native Americans (poetry, fiction, history, anthropology, sociology).

Mr. Lincoln

M107. Women in Literature. (Same as Women's Studies M107.) Prerequisite: Subject A. A survey of literature by and about women. The course examines the delineation of women in English and American literature, studies in historical and contemporary themes, and the evolution of forms and techniques in poetry, fiction, and biography.

Ms. Rowe, Ms. Yeazel


Mr. Dearing

109. Interdisciplinary Approaches to Literature. Prerequisite: Subject A. The study of British or American literature in relation to other disciplines, such as history, political philosophy, psychology. May be repeated for credit.

Mr. Condren, Mr. Hutter

110. Studies in Individual Authors. Prerequisite: Subject A. The specialized study of the work of a single poet, dramatist, prose writer, or novelist. May be repeated for credit.

Mr. Nagy

M111A. The Literature of Myth and Oral Tradition. (Same as Folklore M111.) Prerequisite: Subject A. A study of myth, dramatic origins, oral epic, folklore, and balladry, emphasizing Indo-European and Semitic examples.

Mr. Nagy

M111B. Anglo-American Folk Song. (Same as Folklore M136.) Prerequisites: Subject A, junior standing. A survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values.

Mr. Wilgus

M111C. British Folklore and Mythology. (Same as Folklore M121.) Prerequisites: Subject A, junior standing. A survey of the folklore of the peoples of Britain, with attention to their history, function, and regional differences.

Mr. Georges, Mr. Nagy

M111D. Celtic Mythology. (Same as Folklore M122.) Prerequisite: Folklore 101 or permission of the instructor. A survey of the early materials, chiefly literary, for the study of the mythic traditions of the Celtic peoples, ranging from ancient Gaul to medieval Ireland and Wales.

Mr. Ford

M111E. Survey of Medieval Celtic Literature. (Same as Folklore M122.) Prerequisite: Subject A. A general course dealing with Celtic literature from the earliest times to the fourteenth century. No prior knowledge of Irish or Welsh is required.

Mr. Ford

M111F. Celtic Folklora. Prerequisite: Folklore 101 or permission of the instructor. The folkloric traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research.

Mr. Nagy

M112. Children's Literature. Prerequisite: Subject A. A study of the historical backgrounds and development of types of children's literature, folklore and oral tradition, levels of interest, criticism and evaluation, illustration and bibliography.

Mr. Cushman

113. Literature for Adolescents and Young Adults. Prerequisite: Subject A. This course will analyze and evaluate the literature intended mainly for students in junior and senior high schools. It will also consider new mature books that are popularly suggested for this age group, and study the interests and reading habits of young adults.

Mr. Cushman

114. World Literatures in English. Prerequisites: Subject A, consent of the instructor. A survey of contemporary literature from English speaking parts of the world in the various genres from several countries and making cross-comparisons with the literatures. Generalizations concerning the nature of the English used by such writers will be examined. May be repeated for credit.

Mr. Povey

115. American Popular Literature. Prerequisite: Subject A. A study of the main currents of popular and cultural taste as reflected in such genres as dime novels, detective fiction, and Western stories.

Mr. Povey

116. Science Fiction. Prerequisite: Subject A. A study of science fiction and speculative literatures.

Mr. Guffey

117. Detective Fiction. Prerequisite: Subject A. A study of British and American detective fiction and the literature of detection.

Mr. Hutter

118. Film and Literature. Prerequisite: Subject A. A study of the interdisciplinary relationship 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: 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.

120B. Language Study for Teachers of English: Secondary and Post-Secondary. Prerequisite: Subject A. A rapid review of English language and an introduction to basic concepts in socio-linguistics, dialectology, and stylistics, applied to the analysis and evaluation of writing samples from students in junior and senior high school and junior college.

120C. Language Study for Teachers of Subjects Other Than English: Secondary and Post-Secondary. Prerequisite: Subject A. A course designed to introduce teachers of subjects other than English to basic concepts in language acquisition, dialectology, socio-linguistics, and composition.

121. The History of the English Language. Prerequisite: Subject A. A study directed toward English majors of the main features in the grammatical, lexical, and phonetic condition of the English language from Indo-European up to the present time.

Mr. Calder, Mr. Condren
122. Introduction to the Structure of Present-Day English. Prerequisites: Subject A. An introduction to the techniques of linguistic description as applied to the pronunciation, grammar, and vocabulary of modern English. Ms. Armentrout

123. Afro-American English. Prerequisites: Subject A and English 120A, 120B, 120C or Linguistics 100. Pre- or corequisite: English 123A. A detailed study, involving the analysis of tapes and documents, of the characteristics of urban Afro-American speech and writing.

130. Composition for Teachers. Prerequisites: Subject A, English 3 and 4 or 20. Preparation for future teachers in the writing, reading, and criticism of the kinds of prose discourse usually taught in primary and secondary schools in and junior college.

131. Exposition. Prerequisites: Subject A, English 3, 4 and 20. 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.

133A-133B-133C. Creative Writing: Poetry. Prerequisites: Subject A, English 3, 4 or 20, and consent of instructor, following submission of samples of writing. Weekly exercises in the writing of poetry, with practice in the standard forms and metres and the study of techniques. Classroom discussion based upon student work.

Mr. Gullans, Mr. Kessler, Mr. Yenser

134A-134B-134C. Creative Writing: Short Story. Prerequisites: Subject A, English 3, 4 or 20, and consent of instructor, following submission of samples of writing. The composition of three stories of average length during each quarter. Some of these may, with the instructor's permission and the student's wish, be a substantial revision of the other stories presented. Classroom discussion based upon student work.

Mr. Goldberg, Mr. Kessler

135A-135B-135C. Creative Writing: Drama. Prerequisites: Subject A, English 3, 4 or 20, and consent of instructor, following submission of samples of writing. An exploration of the capacity of each student to write for the theater. Class discussion of student writing, individual conferences, rehearsed readings and laboratory productions.

Mr. Kessler, Mr. Rodes

136A-136B-136C. Journal and Textbook Editing. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. Introductory study of Chaucer's language, version and critical and theoretical criticism.

Mr. Grose, Mr. Guflcy, Ms. Rowe

150. Later Medieval Literature. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the major works of Milton and Shakespeare. A study of the major works of Milton and Shakespeare. Limits of investigation will be set by the individual instructor.

Mr. Allen, Mr. Rodes

151. Elizabethan Literature. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A survey of English literature of the sixteenth century, with special emphasis on the development and interrelationships of poetry, prose, and the contemporary critical sensibility. The reign of Elizabeth.

Mr. Dent, Mr. Kipling

152. The Drama to 1542. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the English drama, excluding Shakespeare, from its beginning to the closing of the theaters, with special emphasis on the development and interrelationships of poetry, prose, and the contemporary critical sensibility. The reign of Elizabeth.

Mr. Dent, Mr. Kipling

153. Literature of the Early Seventeenth Century (1600-1660). Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the major works as literary documents and as products of seventeenth-century thought. The work of Milton is excluded. Mr. Grose, Mr. Guffey, Mr. Sellin

154. Literature of the Restoration and Earlier Eighteenth Century (1660-1730). Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of major works as literary documents and as products of Restoration and earlier eighteenth-century thought. Mr. Ratten, Mr. Roper, Mr. Rousseau

155. Literature of the Later Eighteenth Century (1730-1798). Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of major works as literary documents and as products of later eighteenth-century thought.

Mr. Batten, Mr. Roper, Mr. Rousseau

156. The Drama, 1660-1842. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 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: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A survey of the major novels from Defoe through Scott.

Mr. Lehan, Mr. Novak, Mr. Rousseau

160. Earlier Romantic Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. An intensive study of the poetry and prose of Blake, Wordsworth, and Coleridge. Studies of collateral readings from such authors as Godwin, Burke, Paine, Burns, Southey, Lamb, DeQuincey, and Scott.

Mr. Maniquis, Mr. Sheats

161. Later Romantic Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. An intensive study of the poetry and prose of Keats, Shelley, and Byron, with collateral readings from such authors as Hazlitt, Hunt, Landor, Clare, Moore, and Peacock.

Mr. Burwick, Mr. Maniquis, Mr. Thorslev

162. Earlier Victorian Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the poetry and prose of the earlier Victorian age from the passage of the 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: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the poetry and prose of the later Victorian age from Pre-Raphaelism through the Aesthetic Movement. Decadent Movement and 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: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A survey of the major English novelists from Dickens through Hardy.

Mr. Anderson, Mr. Keys, Ms. Yeazell

165. Twentieth-Century British Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the poetry and prose of the later Victorian age from Pre-Raphaelism through the Aesthetic Movement. Decadent Movement and other intellectual trends, including such authors as Ruskin, Swinburne, Pater, Hopkins, Hardy, Wilde, and Yeats.

Mr. Freeman, Mr. Kolb, Mr. Tennyson

166. The Novel, 1900 to the Present. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A survey of the major English novelists from Conrad to the present.

Mr. Keys, Mr. Lehan, Mr. Lincoln

167. The Drama, 1842 to the Present. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the development of the American novel and the contemporary critical sensibility.

Mr. Freidman, Mr. Braunmuller, Mr. Goodwin

170. American Literature to 1800. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A historical survey of American literature through the Colonial and Early National periods.

Mr. Weber

171. American Literature, 1801-1865. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A historical survey of American literature, including fiction, from the beginning of the nineteenth century to the end of the Civil War.

Mr. Hirst, Mr. Fisher, Mr. Weber

172. American Literature, 1866-1912. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A historical survey of American literature from Whitman to the founding of Poetry magazine.

Mr. Hirst, Mr. Nevius, Mr. Wortham

173. Twentieth-Century American Poetry. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. The development of American poetry since 1912, including the works of Frost, Eliot, Pound, and Stevens.

Mr. Bedient, Mr. Riddle, Mr. Yenser

174. Twentieth-Century American Fiction. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. The development of the American novel and short story since 1912, including the works of Hemingway, Fitzgerald, and Faulkner.

Mr. Goodwin, Mr. Ndole, Mr. Riddle

175. Perspectives in the Study of American Culture. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. An interdisciplinary study of American literature in its relationships to other disciplines, including art, architecture, film, history, music, philosophy, and various other fields. The course will concentrate upon the application of literary methodology to a historical survey of American culture.

Mr. Goodwin, Mr. Paredes, Mr. Weber

Specialized Studies

These courses (180X through 189) are designed to permit a small number of students (normal limit:
15) to engage in concentrated study in an area in which they have a particular interest, and in which they have taken adequate upper division background courses. 

Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. For the author, period, genre, or subject to be studied, see the Schedule of Classes for any given quarter. Enrollment for specialized courses is handled through the Department of English (Rolle Hall 222S) at the time of preregistration in the quarter preceding that in which the course is offered. For further details, see the Departmental adviser. Specialized studies courses may be repeated for credit.

180X. Specialized Studies in Literature. Studies in genres, themes, problems, and relationships of literature to other disciplines.

180L. Specialized Studies in Medieval Literature.

181. Specialized Studies in Renaissance Literature.


188. Specialized Studies in Nineteenth Century American Literature.


190. Literature and Society. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. The intensive study of some aspect of the relationship between literature and social, economic, or political history. May be repeated for credit.

199N. Honors Tutorial. Prerequisite: consent of instructor. A tutorial course for students enrolled in the Honors Program in English. Each student will be expected to complete a substantial critical or research paper for credit in the course.

Graduate Courses

200. Approaches to Literary Research. The bibliographical tools of English and American literary scholarship; an introduction to descriptive bibliography, and basic methods of research. Mr. Batten, Mr. Gullans, Mr. Kipling.

201. Approaches to Literary Criticism. The study of the various applications, approaches, and pre-suppositions of literary criticism as it relates to the interpretation and evaluation of texts.

202. Enumerative and Descriptive Bibliography. Problems in bibliography, texts, and editions, with practical application in compiling bibliographies, editing texts, and approaching literature through textual criticism.

203. Computer and Literary Research. Practice in writing and using computer programs for the analysis of literary style, content, and authorship.

204. Graduate Seminars. Seminars are open to all graduate students with adequate preparations, and may be repeated for credit. Enrollment is by consent of the individual instructor. Credit is limited to the individual instructor.

205. Perspectives in American Folklore Research. Game Folklore and Mythology M205. Prerequisites: Folklore 101 and one other upper-division folklore course. An examination of American folklore studies compared and contrasted with investigations in other countries, with emphasis upon the principal conceptual schemes and research orientations employed in the study of folklore in American society.

210. History of the English Language. A detailed study of the history, characteristics, and changing forms of the language from its origin until about 1500. Ms. Armentrout, Mr. Condren.

211. Old English. Study of Old English grammar, lexicon, phonology, and pronunciation to enable the student to read the literature silently and aloud. Reading of as much of the more interesting Old English prose and poetry as can be read in a quarter.

212. Middle English. Prerequisite: course 211. Detailed study of the linguistic aspects of Middle English and of representative examples of the better prose and poetry.

213. Modern English. Detailed study of the history, characteristics, and changing forms of Modern English, especially syntax and semantics.

214. The Structure of Present-Day English. Prerequisite: course 212K or 122. Investigation in depth of the basic constructs and sub-systems of English structure as described by grammarians of various theoretical persuasions.

216A-216B. Old Irish. Prerequisite: consent of instructor. Studies in grammar. Readings in the glosses and other texts.


218. Celtic Linguistics. Prerequisite: consent of instructor. A survey of salient features of the Celtic linguistic stock in its Gaelic and British branches, with reference to the position of Celtic within Indo-European languages.

219. Graduate Readings. These courses stress wide reading in major works and their cultural background. Students with adequate undergraduate preparation in a period may proceed directly to a seminar.

220. Readings in Medievalism. Mr. Kelly, Ms. Ridley.

221. Readings in the Renaissance. Mr. Jorgensen, Mr. Kinsman, Mr. Lanham.

222. Readings in the Earlier Seventeenth Century. Mr. Coffey, Mr. Gullans, Mr. Sellin.

223. Readings in the Restoration and Eighteenth Century. Mr. Dearing, Mr. Novak, Mr. Rousseau.

224. Readings in Romanticism. Mr. Burwick, Mr. Maniquis, Mr. Sheets.

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

226A. Readings in American Literature to 1828. Mr. Sheats.


227. Readings in Twentieth-Century American Literature: 1912 to the Present. Mr. Lehan, Mr. Riddel.

228. Readings in Twentieth-Century British Literature. Mr. Bedient, Mr. Cross, Mr. Kessler.

Graduate Seminars

Seminars are open to all graduate students with adequate preparations, and may be repeated for credit. Enrollment is by consent of the individual instructor. Credit is limited to the individual instructor.

230. Studies in the Structure of the English Language. Prerequisite: consent of the instructor. Topics in various aspects of the structure of Modern English, especially syntax and semantics.

241. Studies in the Structure of the English Language. Prerequisite: consent of the 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 nineteenth century and modern; specific authors; or the contributions of specific groups of linguists to literary analysis.

243A. The Ballad. (Same as Folklore M243A) Prerequisite: consent of the instructor. A 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 M243B) Prerequisites: course M243A or consent of the 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. Dent, Mr. Jorgensen.

248. Earlier Seventeenth-Century Literature. Studies in the poetry and prose of seventeenth-century English Literature up to the Restoration; limits of investigation to be set by the individual instructor.

249. Milton. Studies in the poetry and prose of John Milton; particular emphases to be set by the individual instructor.

250. Restoration and Eighteenth-Century Literature. Studies in English poetry and prose, 1660-1800; limits of investigation to be set by the individual instructor.

251. The Romantic Writers.

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.

254. American Literature to 1900. Studies in colonial and nineteenth-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 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 the evolution of the genre from its beginnings to the present;
limits of investigation to be set by the individual instructor. Mr. Lehman, Mr. Novak, Mr. Welsh

259. Studies in Criticism
Mr. Krieger, Dr. Riddle

Special Courses for the Master’s Degree

270A-270B. English for the Two-Year College. Prerequisite: course 120 or Linguistics 100. The course will focus each time on one of a variety of topics of special current interest. Mr. Lantham

271. Studies in African Literature in English. Prerequisite: English 114 or consent of the instructor. Continuation of English 114. Special problems and trends of African literature in English. Mr. Powey

272. Current Issues in the Teaching of English. Prerequisite: course 120 or Linguistics 100. The course will focus each time on one of a variety of topics of special current interest. Mr. Lantham


274. Teaching English to Minority Groups. Pre- or co-requisite: course 120 or Linguistics 100. The special cultural, social, psychological, and methodological considerations involved in the English instruction of minority groups in American schools and colleges.

Professional Courses in Method


276. 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.

495. Supervised Teacher Preparation. Prerequisite: Teaching assistant, involved in freshman composition program. Seminar for teaching assistants who are associated with the freshman composition program. Required for first quarter assistants. May be repeated for credit.

496. Directed Individual Study in Pedagogy. (5 course) Prerequisite: must be teaching assistant working under member of the faculty. Supervised individual instruction in teaching, including monitoring of teaching assistant’s pedagogical activities and regular consultation with assistant concerning all of his teaching responsibilities.

501. Cooperative Program. (2 courses) Prerequisite: Professor of Education, Associate Dean, and Graduate Dean; and approval of host campus Instructor, Department Chairman, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangement with neighboring institutions. To be graded S/U.

Individual Study and Research

595. Directed Individual Study for Master’s Candidates. An independent study course for Master’s Candidates, which involves the completion of a substantial research project. Four units will be accepted toward the nine courses required for the degree. Graded S/U.

596. Directed Individual Study. For first-state doctoral students preparing for the first Qualifying Examination. May be taken only once (four units). May not be used to satisfy any course requirement for the degree.

597. Preparation of the Doctoral Examination. Ph.D. Candidates required to take course (four units) before the Second Qualifying Examination.

599. Dissertation Research. (1 or 2 courses) Enrollment restricted to Ph.D. Candidates who enroll in seminars in their fields, or candidates concurrently enrolled in such seminars. (Exception to this rule must be requested by petition). To be graded S/U.

English as a Second Language

Undergraduate Courses
Courses 33A-33B-33C, 34, 36, 103J, 106J, and 109J are only for students whose first language was other than English. English courses 33A-33B-33C are not open to those who have received a satisfactory grade in English 1 at the University of California. Permission to enroll in these three courses is given on the basis of the Entrance Examination in English as a Second Language which students whose mother tongue is not English must take instead of the Subject A examination (see Subject A in this bulletin). Depending on the results of this examination, entering students are: (1) exempted from any special English requirement; (2) required to take course 33C; (3) required to take course 33B followed by course 33A; (4) required to take course 33A followed by courses 33B and 33C; or (5) required to spend a quarter studying elementary English exclusively.

Certificate in the Teaching of English as a Second Language (or Dialect)

To qualify for this certificate students must meet the following requirements: (1) All students, those educated in the United States, as well as those educated in other countries, must have an educational background sufficient to qualify them for teachers training (in their own country or in the United States); they will normally be admitted to the University as graduate students. With the approval of the Dean of the Graduate Division and the Vice Chairman of the Department of English, graduate admission may be granted to students who have completed the Entrance Examination in English as a Second Language, and have maintained a grade-point average of 3.25. Upon recommendation of the Vice Chairman of the Department of English, graduate admission may be granted to students who have maintained a grade-point average of 3.25, upon recommendation of the Dean of the University. The Staff

NOTE: For key to symbols, see page 74
CLEW

English

174 / ENGLISH

Second Language Meets. Five hours weekly. Emphasizes reading comprehension, vocabulary development and writing effective paragraphs. The Staff

33C. Intermediate English as a Second Language. Prerequisites: course 33B or proficiency demonstrated by Entrance Examination in English as a Second Language. A course designed to give students composition skills and reading unsimplified academic materials. The Staff

34. Oral Communication Skills for Foreign Students. Prerequisite: exemption on the English as a Second Language Placement Examination or successful completion of English 33C, plus the consent of the instructor. English 34 will develop oral language skills that will prepare non-native speakers of English to participate in class discussions, make oral presentations (lectures, debates, thesis defense, etc.) before an audience and respond to questions, and continue to improve through self-evaluation of speech. Ms. Hinofitis

36. Intermediate Composition for Foreign Students. Prerequisites: successful completion of English 33C or by examination. A course designed in writing to improve English language writing skills for non-native speakers of English. Special attention is given to grammatical structures, principles and methods of exposition and writing for academic purposes. The Staff

Upper Division Courses

103J. Phonetics for Foreign Students. Prerequisite: course 33C or the equivalent. A detailed and systematic study of the sounds of American English and English as used in which they are put together in the natural speech, applied to the improvement of the student's own accent. Language Laboratory. The Staff

103K. Phonetics for Teachers of English as a Second Language. Prerequisite: consent of the instructor. A course in the systematic description of the sounds of American English, with attention to the differences between Standard and American speech. Drill directed toward individual needs. Mr. Bowen

106J. Advanced Composition for Foreign Students. Prerequisite: course 33C or the equivalent. A course designed in writing in which readings dealing with American life and thought, with the aim of developing control of idiomatic expression. Mr. Poevy

106K. Writing in the ESL Context. Limited to TESL Certificate or M.A. Candidates. Provides opportunities for practice and improvement in writing skills and thus fulfills the composition requirement for the TESL Certificate. Surveys important theoretical and methodological issues related to the teaching of writing to ESL students and examines appropriate classroom materials. Mr. Schumann

107K. Reading in the ESL Context. Limited to TESL Certificate or M.A. Candidates. Provides opportunities for practice and improvement in reading skills and thus fulfills the composition requirement for the TESL Certificate. Surveys important theoretical and methodological issues related to the teaching of reading to ESL students and examines appropriate classroom materials. Ms. Hatch

109J. Introduction to Literature (for Foreign Students). Prerequisite: course 33C or the equivalent. Selections from English and American literature presented so as to make full allowance for the student dangers and problems, while contributing to an increasing mastery of the English language. Mr. Poevy

109K. Literature in the ESL Context. Limited to TESL Certificate or M.A. Candidates. Provides opportunities for practice and improvement in writing skills and thus fulfills the composition requirement for the TESL Certificate. Surveys important theoretical and methodological issues related to the teaching of literature to ESL students and examines appropriate classroom materials. Mr. Poevy

111K. Background Language for Teachers of English as a Second Language. Prerequisite: consent of the instructor. Fulfills the foreign-language requirement for the Certificate in the Teaching of English as a Second Language. Beginning course in a non-English European language, taught as a demonstration of recommended pedagogical techniques and designed to acquaint prospective language teachers with a wide variety of linguistic and cultural structures. Ms. Cecle—Murcia

Graduate Courses

210K. Role of English as a Second Language in Bilingual Education. Prerequisites: Linguistics 100, course 370K or consent of instructor. Research and study of major problems and issues in designing and evaluating curriculum for bilingual students in the United States and abroad. Mr. Galvan

250K. Contrastive Analysis and Error Analysis in the ESL Context. Prerequisites: Linguistics 100, course 370K. Analysis of English and other languages as a basis for raising cultural awareness abroad. Preparation of lesson plans for helping specific groups of students overcome common errors identified through the analyses. Observation of ESL classroom. Mr. Anderson, Mr. Campbell, Mr. Galvan

251K. Bilingual Comparative Studies. Seminar. Prerequisite: courses 215 and 250K. The relationship between two languages in an incipient bilingual speaker. Further study of the techniques of comparative linguistics as means of predicting differences between linguistic systems with application to original research projects. Mr. Bowen

260K. Psycholinguistics and Language Teaching. Seminar. Prerequisite: courses 370K and 103K and Linguistics 100, or consent of the instructor. An exploration of those areas of psycholinguistics that are important to understanding how foreign language learners acquire language; theories of language learning and teaching; how to determine the learners' current status and how to develop teaching methods for helping specific groups of students overcome common errors identified through the analyses and observation of ESL classrooms. Mr. Schumann


262K. Second-Language Acquisition. Prerequisite: consent of instructor. The literature on child and adult second-language acquisition forms the basis for this research class. Language variables (phonological, morphological, sentential, and discourse levels) and social and psychological variables which may account for differences in learning are considered. Research on classroom language learning and/or learning in ‘natural’ environments is required. Mr. Schumann

270K. Language Policy in Developing Countries. Seminar. Prerequisite: consent of the instructor. The course provides an opportunity to examine language problems such as those in Nigeria and the Philippines, factors affecting language policy and their power in the schools. The ability to use the research of sociolinguistics and psycholinguistics of language policy is required. Mr. Prator

272K. Current Issues in Applied Linguistics. Prerequisites: or Co-requisites: Linguistics 100, English 370K. Each time it is given the course will focus on one of a variety of topics of special interest to graduate students in TESL and Applied Linguistics. The Staff

Professional Courses


380K. Supervised Teaching: English as a Second Language or Dialect. Prerequisite: course 370K. Team teaching at the elementary, secondary, or adult level under the supervision of a senior staff member. Graded on a P/U basis for graduate students, and a Passed/Not Passed basis for undergraduate students. The Staff


The Staff

495KA—495KB. Training and Supervision of Teaching Assistants. Prerequisite: concurrent appointment as a teaching assistant or Extension-Division instructor or consent of instructor. Research and supervision of graduate students who have the responsibility for teaching ESL courses at UCLA. Syllabus revision and materials preparation. Two or more hours per week for fall and winter quarters. Credit for a total of four units for the two quarters is given but does not count toward M.A. or Certificate in TESL or Ph.D. in Applied Linguistics. Graded Satisfactory/Unsatisfactory. The Staff

Individual Study and Research

596K. Directed Individual Study. Prerequisite: graduate standing. Credit (one course) allowed only once. Independent study in an area related to English as a Second Language. The Staff

596K. Research and Thesis Preparation for Candidates for M.A. in Teaching English as a Second Language. Individual study in an area related to the M.A. program. Survey of research needs and thesis preparation. In all includes optional section on experimental design and statistical methods. Credit for a total of four units is allowed only once, but all M.A. candidates must enroll in the course each quarter they are registered and engaged in the thesis preparation. Graded Satisfactory/Unsatisfactory.

Mr. Rand

ENVIRONMENTAL SCIENCE AND ENGINEERING (INTERDEPARTMENTAL)

(Office: 3677 Geology Building)

Orson L. Anderson, Ph.D., Professor of Geophysics. Emeritus (Office: Geology 236)

Christopher S. Foote, Ph.D., Professor of Chemistry.

Malcolm S. Gordon, Ph.D., Professor of Biology.

Christopher S. Foote, Ph.D., Professor of Chemistry.

Robert G. Lindberg, Ph.D., Professor of Chemistry.

Robert A. Mah, Ph.D., Professor of Public Health.

John A. Dracup, Ph.D., Associate Professor of Environmental Science and Engineering.

Robert L. Perrine, Ph.D., Professor of Engineering and Applied Science. (Chairman of the Interdepartmental Committee).

Morton G. Wurtele, Ph.D., Professor of Atmospheric Dynamics.

Eduardo Pertusa, Ph.D., Professor of Environmental Science and Engineering. (Office: Geology 236)

Lois S. Dracup, Ph.D., Professor of Environmental Science and Engineering.

Dracup, Ph.D., Professor of Engineering and Applied Science. (Office: Geology 236)

Jane Valentine, Ph.D., Assistant Professor of Public Health.

Climis A. Davos, Ph.D., Assistant Professor of Public Health and Environmental Science and Engineering in Residence.

W. W. Libby, Ph.D., Adjunct Professor of Environmental Science and Engineering. (Office: Geology 236)

William Dritschild, Ph.D., Assistant Professor of Environmental Science and Engineering. (Office: Geology 236)
Undergraduate Program

Although no undergraduate major is offered encompassing the broad area of environmental science and engineering, studies which readily lead to advanced professional work in these fields can be arranged along several routes. Students with majors in the natural sciences, public health, or engineering, who have environmental or energy problem-solving as a professional goal, may wish to supplement their course preparation in consultation with the faculty of the Environmental Science and Engineering Program. In preparation for graduate study, attention should be given to requirements for the Doctoral Program in Environmental Science and Engineering.

Master’s Program

Preparation for Environmental Science and Engineering is provided through Master of Arts, Master of Science and Master of Public Health degree programs conducted by the academic departments and programs. These departments include Biology, Chemistry, Earth and Space Sciences, and Atmospheric Sciences within the College of Letters and Science; the School of Public Health; and the College of Engineering, Engineering Systems, and Mechanics and Structures within the School of Engineering and Applied Science.

Master’s students anticipating eventual progress toward a doctoral degree should plan their programs carefully to advance. Faculty members from the student’s own participating department who are actively involved in the interdisciplinary program should be consulted, and preferably should form the members of the student’s committee. It is recommended that the student’s program be planned with a view toward the course requirements of the doctoral curriculum. This will ensure both adequate preparation and a smooth transition to more advanced studies.

The Doctor of Environmental Science and Engineering Program

Formal entry to the D. Env. program requires a Master’s degree in a field within the natural sciences, public health or engineering. The intent of this requirement is to ensure that the student have adequate competence within an established discipline.

The program of study for the D. Env. is supervised by the Interdepartmental Committee for Environmental Science and Engineering. Broadly stated, this program has as its objective the preparation at the highest level of competence of professionals who will evaluate, devise and implement solutions for complex, multidisciplinary environmental and energy problems. In contrast to environment-related research scientists, these individuals will be problem-solvers. Thus the traditional program of study and research culminating in the Ph.D. dissertation has been replaced by a rigorous clinical curriculum involving appropriate discipline work, a year of problem-solving, applied research experience, and a 18-month to two-year professional internship, requiring in total approximately four years beyond the Master’s Degree.

Areas of Concentration and Breadth

Four areas of concentration are available within the D. Env. program: Energy, Water Quality, Energy Utilization, and Urban Problems. Adequate course preparation beyond the Master’s degree is required in order to provide the disciplinary and breadth-depth required to solve major environmental problems in the four areas of concentration. The time span occupied in satisfying these requirements varies considerably with the preparation of the individual student; the average is about four quarters.

Breadth areas include biology, chemistry, earth and atmospheric sciences, engineering, applied and social science (law, political science, economics). A list of current suggested "Breadth Requirement" courses is available from the Program Office. Students are guided in their preparation by their faculty committees.

Problems Courses

The completion of breadth requirements is followed by a further year of study to satisfy Problems Course requirements. Problems Courses constitute intensive multidisciplinary, applied research directed toward the solution of current environmental problems. Often these studies are conducted at the request of a public agency or other interested organization. Usually three or four faculty members from different disciplines closely supervise eight to ten students. The rationale for the problems course is that environmental managers should experience as early as possible the rigors of real-time decision making. They learn also the demand that the up-to-date, innovative use of more basic research places on problem solvers. Thus the Problems Courses require students to quantify and measure necessary parameters, perform critical evaluations, edit and process technical and socio-economic information, meet deadlines, and finally, to communicate, through a final report on a complex policy-related subject, to the competent layperson as well as the professional.

During this period satisfactory progress must be made in passing cumulative examinations. Before being advanced to candidacy and to the internship, the student must pass an oral qualifying examination.

Internships: Clinical Practice

In the internship, doctoral candidates perform as full-time, salaried professional staff members in local, state, and federal agencies, international organizations, consulting firms, and other private industries. The required period is 18 months to two years. The work is performed under supervision from the doctoral committees as well as day-by-day supervision by appropriate individuals within the host institutions. Thus candidates are exposed to a type and range of experience suited to their needs. Students arrange for their own internship organization according to their interests and geographical preferences, with assistance and guidance from their faculty committee.

Final Requirements

A final quarter in residence is required subsequent to the internship to complete requirements for the award. The dissertation, the student’s participation in ongoing Problems Courses, demonstrating their proficiency and maturity as problem-solvers. They must also prepare a final report for the University Archives on their work as interns, and pass a final oral examination. Thus the internship experience and the report documenting this work replace the traditional doctoral research and dissertation.

Graduate Courses

400A. Environmental Science and Engineering Problems Course. (2 courses) Prerequisite: consent of instructor and program chairman; primarily intended for students enrolled in the Environmental Science and Engineering doctoral program. Multidisciplinary technical and socio-economic analysis and prognosis of significant current environmental problems.

400B. Environmental Science and Engineering Problems Course. (2 courses) Prerequisite: satisfactory completion of 400A, consent of instructor and program chairman. Continuation of 400A. Multidisciplinary technical and socio-economic analysis and prognosis of significant current environmental problems.

400C. Environmental Science and Engineering Problems Course. (2 courses) Prerequisite: satisfactory completion of 400B, consent of instructor and program chairman. Continuation of 400B. Multidisciplinary technical and socio-economic analysis and prognosis of significant current environmental problems.

400D. Environmental Science and Engineering Problems Course. (2 courses) Prerequisite: satisfactory completion of 400C, consent of instructor and program chairman. Continuation of 400C. Multidisciplinary technical and socio-economic analysis and prognosis of significant current environmental problems.
and Science) regardless of the department in which his concentration is located.

Students who wish to see a counselor regarding program planning and major requirements should see Wendy Urfrig, 205 Women’s Gym.

Requirements for the Bachelor of Arts Degree

1. A core of seven interdisciplinary courses: Dance 46A-46B-46C, Folklore 101, Music 5A-5B-5C, Theater Arts 102E, Anthropology 5A, and either Art 55 or Art 56.

2. A concentration of nine courses in one of the following areas: (The student will declare a “concentration” by the beginning of the Junior year.)

   Anthropology 5C, 143, 144, 150A, and any five upper division anthropology courses from group one through eight and including one area course from group one.


   Dance 38B, 47A-47B-47C, 70A, 151A-151B; two courses from 140A-140B-140C; one course from 142, 143, 144, 145, 146, and three courses from 171A-171P.

   Folklore and Mythology one course from M111, 118, M180; two courses from M106, M123B, 124, M181, Classics 168; six courses from M112, M121, M122, M123A, M125, M126, M129, 130, M149, M150, 150A, German 134.

   Music: 17A-17B-17C, 26A-26B-26C, 140A-140B-140C.


3. Ethnic Arts 190A-190B. Senior Colloquium Pre-requisite: restricted to senior standing. Ethnic Arts majors. Studies of a comparative and integrative nature in the ethnic arts.

4. Three elective courses which may be chosen from the list below. Other courses might also be appropriate. In order to meet degree requirements the electives must be related to the major and approved by the concentration advisor. The three courses chosen to meet this requirement must be upper division courses and from three different areas outside the area of concentration.

Upper Division Electives

Anthropology 143. The Individual in Culture.

144. Aesthetic Anthropology.

150A-150B. Social Anthropology.

179. Ethnography on Film.

Any upper division Anthropology course


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.

115A. Advanced Indian Art.

115B. Advanced Chinese Art.

115C. Advanced Japanese Art.

117A-117B-117C. Mideastern 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.

119A. Advanced Studies in African Art: The Western Sudan.


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.

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.

Folklore and Mythology M106. Anglo-American Folksong.

M111. Literature of Myth and Oral Tradition.

(English M111A.)

M112. Survey of Medieval Celtic Literature.

118. Folk Art and Technology.

121. British Folklore and Mythology.

(English M111C)

M122. Celtic Folklore and Mythology.

(English M111D)

M123A. Introduction to Finnish Folklore and Mythology.

(Scandinavian Languages M123A.)

M123B. Finnish Folksong and Ballad.

(Scandinavian Languages M123B.)

124. Finnish Folk Art and Technology.

M125. Folklore and Mythology of the Lapps.

(Scandinavian Languages M125.)

M126. Baltic and Slavic Folksong and Mythology.

(Slavic Languages M179.)

M128. Introduction to Hungarian Folklore and Mythology.

(Hungarian M135.)

M129. Folklore and Mythology of the Ugric Peoples.

(Hungarian M136.)


M149. Folk Literature of the Hispanic World.

(Spanish M149.)

M150. Russian Folk Literature.

(Russian M150.)


(Music M154A-154B.)

158. Transcription, Analysis, and Classification of Folk Music.

M144. American Folk and Popular Music.


M147A-147B. Music of China.

148. Folk Music of South Asia.

149. The Anthropology of Music.

152. Survey of Indian Music.


157. Music of Brazil.

158. New Orleans Jazz.

M180. Transcription, Analysis, and Classification of Folk Music.

M181. Folk Music of Central and Western Europe.


Spanish 151. Folksong in Spain and Spanish America.

Theater Arts 102A-102B. History of European Theater.

103A-103B. Black Peoples Theater in America.

104A-104B. History of the American Theater.

106C. History of African, Asian and Latin American Film.

110A-110B. History of Television and Radio.

117. The Puppet Theater.

118A. Creative Dramatics.

119. Theater for the Child Audience.

120. Intermediate Acting for the Stage.

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.

143A. Scenic Design for the Theater.

143B. Advanced Scenic Design for the Theater.

144A. Theater Sound Techniques.

144B. Advanced Theater Sound.

146B. Scene Painting Techniques.

149A. Basic Drafting Techniques for the Stage.

160A. Fundamentals of Play Direction.

190A. The Role of Management in Theater.

FOLKLORE AND MYTHOLOGY (INTERDEPARTMENTAL)

(Office Department, 1041 Graduate School of Management)

Shirley L. Arora, Ph.D., Professor of Spanish
Margheri Cottino-Jones, Ph.D., Professor of Italian
Robert A. Georges, Ph.D., Professor of English and Folklore.
The program leading to the degree of Master of Arts is administered by the interdepartmental Committee on Folklore and Mythology, which concerns itself with the various phases of folklore and mythology. The Committee administers the interdepartmental program.

**Requirements for the Master's Degree**

**General Requirements.** As throughout the Graduate Division, see Minimum Requirements.

**Language Requirement.** A reading knowledge of French or German. The ETS examination must be taken in or before the third quarter in residence and must be successfully completed by the end of the fourth quarter.

A Program for candidates who wish to complete the Thesis Plan or the Comprehensive Examination Plan, must include the following:

- Group 2: Folklore M121, M122, M123A, M125, M126, M128, M129, 130, 131, M149, M150, M205, M230A-230B, M241, M249, M257; African Languages 150A-150B; German 134, 240A; Scandinavian Languages 141.
- Group 3: Anthropology 141, 166; Classics 161; German M245A (or Scandinavian M245); History 124D; Classics 168; Classics 268.
- Group 4: Folklore 213, 217, M243A, M243B, 251, 252, 258, 259, M286A-286B-286C; German 262; English 228; Music 255, 280; Spanish 262B.

**Thesis Plan.** The candidate must complete a minimum of ten courses (six in the 200 series) and submit an acceptable thesis, prepared under the direction of a member of the Folklore and Mythology program. Submission of the thesis will be followed by a oral examination covering the fields of folklore and mythology studies.

**Comprehensive Examination Plan.** The candidate must complete a minimum of ten courses (six in the 200 series). At the end of the course work, the candidate will be expected to demonstrate competence in written examinations requiring a grasp of theoretical bases, major documents, and research methods and techniques of folklore and mythology studies; two forms of folklore and mythology; and the folklore and mythology of a single country, continent, or geographical area. A final oral comprehensive examination will cover the fields of folklore and mythology studies.

Financial aid and research opportunities are available to qualified graduate students in the form of fellowships, research assistantships, teaching assistantships, and collecting stipends. For further information, students should consult the Director of the Center for the Study of Comparative Folklore and Mythology.

**Lower Division Course**

15. Introduction to American Folklore Studies. Lecture and discussion. A cultural-historical survey of the role of folklore in the development of American civilization and of the influence of the American experience in shaping the 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.

M106. Anglo-American Folk Song. (Same as English M111B.) Prerequisite: Subject A, junior standing. A survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values.

M111. The Literature of Myth and Oral Tradition. (Same as English M111A.) Prerequisite: Subject A. A study of myth, dramatic origins, oral epic, folklore, and ballad, including Indo-European and Semitic examples. Mr. Whitehouse.

M112. Survey of Medieval Celtic Literature. (Same as English M111E.) Prerequisite: Subject A. A general course dealing with Celtic literature from the earliest times to the fourteenth century. No knowledge of Irish or Welsh is required. Mr. Ford.

M128. Finnish Folklore and Mythology. (Same as Scandinavian Languages M123A.) The methods and materials of the Finnish folkloristic and mythological traditions of the Finns. Special attention is paid to the oral epic and ballads.

M129. Finnish Folklore and Mythology. (Same as Scandinavian Languages M123B.) The methods and materials of the Finnish folkloristic and mythological traditions of the Finns. Special attention is paid to the oral epic and ballads.

NOTE: For key to symbols, see page 74
M140. From Boccaccio to Basile (in English). (Same as Italian M140.) A study of the origins and the development of the Italian novella in its themes, in its structure, in its historical context, and in its European ramifications. The course is designed for students in other departments who wish to become acquainted with either the premises or the growth of similar literary genres. It is also intended for stu-
ents majoring in Folklore and Mythology, who will be given an insight into Italian popular tales when these (as in the case of Boccaccio) were translated into highly sophisticated literary forms, as well as when (as in the case of Basile) they became
embedded into the folk tradition of the Western world.
Ms. Cottino–Jones
M149. Folk Literature of the Hispanic World. (Same as Spanish M149.) A study of the history and present dissemination of the principal forms of folklore throughout the Hispanic countries.
Ms. Arora, Mr. Robe
M150. Russian Folk Literature. (Same as Russian M150.) Four hours weekly. Lectures and readings in Russian.
M154A-154B. The Afro-American Musical Heritage. (Same as Music M154A-154B.) Prerequisite: Music 1 or consent of the instructor. 154A is prerequisite to 154B. A study of African-American rhythm, dance, music, field hollers, work songs, spirituals, blues, and jazz; the contrast between West Africa, Afro-American and Afro-Brazilian musical traditions.
M180. Analytical Approaches to Folk Music. (Same as Music M180.) Prerequisite: Music 5A-5B or consent of the instructor. An intensive study of the methods and techniques necessary to the understanding of Western folk music.
Mr. Porter
M181. Folk Music of Central and Western Europe. (Same as Music M181.) Prerequisites: Music 5A-5B, or Music 140A, or Music 140C, or consent of instructor. An analysis of the folk musical styles of Europe, excluding the Balkans and Soviet Russia. Particular attention will be given to the comparative study of European folk music.
Mr. Porter
190. Selected Topics in Folklore and Mythology Studies. Prerequisite: course 15 or course 101 and consent of instructor. A seminar focusing upon selected problems, data, or themes in folklore and mythology studies.
The Staff
199. Special Studies in Folklore. (% to 1 course) Prerequisite: senior standing and consent of the instructor.
The Staff
Graduate Courses
200. Folklore Bibliography, Theory and Research Methods. Prerequisites: course 101 and one other folklore course in the 100 series.
Mr. Georges, Mr. Ward
201A. Folklore Collecting and Field Research. Prerequisites: course 200. Discussion-demonstration concerning the theoretical concepts, methods, and techniques of data gathering and field research in folklore.
Mr. Jones, Mr. Wilgus
201B. Folklore Collecting and Field Research. Prerequisite: course 201A. The supervised completion of a fieldwork project developed in Folklore 201A.
Mr. Jones, Mr. Wilgus
202A-202B. Folklore Archiving (% course each) Prerequisite: course 200. One quarter of lecture-demonstration in the principles and techniques of the classification and preservation of folklore collection, followed by one quarter of directed experience in archiving.
Mr. Georges
M205. Perspectives in American Folklore Research. (Same as English M205.) Prerequisites: Folklore 101 and one other upper-division folklore course. A comparison of American folklore studies compared and contrasted with investigation in other countries, with emphasis upon the principal conceptual schemes and research orientations employed in the study of folklore in American society.
Mr. Jones
213. Folk Belief and Custom. Prerequisites: course 101 and any one of the following courses: 118, M121, M122, M123A-123B, 124, M125, M126, M128, M149, M150; Anthropology 102, 140, Ger-
man 134, 240.
Mr. Jones, Mr. Ward
216. The Folktales. Prerequisite: course 200 or consent of instructor.
Mr. Georges, Mr. Ward
217. Folk Speech. Prerequisites: courses 101, M106, or M111; also recommended: Anthropology M146, 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
M230A-230B. Folk Tradition in Italian Literature. (Same as Italian M230A-230B.)
M241. Folklore and Mythology of the Near East. (Same as Near Eastern Languages M241.)
M243A. The Ballad. (Same as English M243A.) Prerequisite: consent of the instructor. A study of the English and Scottish popular ballads and their American derivatives, with some attention to Euro-
pean analogues.
Mr. Wilgus
M243B. Problems in Ballad Scholarship. (Same as English M243B) Prerequisite: course M243A or consent of the instructor. Intensive investigation of a problem or problems in the study of the popular ballad.
Mr. Wilgus
245. Theory and Method in Latin American Folklore Studies. A historical survey of folklore scholarship in Latin America, with emphasis on the theoretical bases and methods and techniques employed in the study and analysis of traditional tales, songs, music, linguistic expression.
M249. Spanish Folk Literature. (Same as Spanish and Portuguese M249) Prerequisite: graduate standing. An intensive study of folk literature as represented in a) ballad and poetry; b) narrative and drama; c) speech.
Ms. Arora, Mr. Robe
251. Seminar in Finno-Ugrian Folklore and Mythology.
M257. South American Folklore and Mythology Studies. (Same as Anthropology M257.) Prerequisite: Anthropology 105A or consent of the instructor. An examination of oral traditions and related ethnological data from various South American Indian societies against the background of the religious systems of these peoples.
Mr. Wilbert
M258. Seminar in Folk Music. (Same as Music M258.) Prerequisite: consent of instructor.
Mr. Porter, Mr. Wilgus
259. Seminar in Folklore. Prerequisite: course 200 and consent of instructor.
The Staff
M266A-266B-266C. Studies in Hispanic Folk Literature.
M266A. Studies in Hispanic Folk Literature—The Romancero. (Same as Spanish M266A.)
Mr. Rodriguez—Puertolas
M266B. Studies in Hispanic Folk Literature—Narrative and Drama. (Same as Spanish M266B+)
Ms. Arora, Mr. Robe
M267C. Studies in Hispanic Folk Literature—Ballad, Poetry, and Speech. (Same as Spanish M267C.)
Mr. Robe
Individual Study and Research
596. Directed Studies in Folklore. (% to 1 course each) The Staff
597. Preparation for Comprehensive Examina-
tions (% to 1 course) This course may not be used in fulfillment of minimum course requirements for the M.A. degree.
The Staff
598. Master’s Thesis Preparation. (% to 1 course) The Staff
Related Courses in Other Departments
Upper Division Courses
African Languages 150A-150B-150C. African Literature in English Translation.
Anthropology 102. World Ethnography.
140. Comparative Religion.
141. Social and Psychological Aspects of Myth and Ritual.
144. Aesthetic Anthropology.
Art 101D. Art of the Ancient Near East.
117A. Advanced Studies in Pre-Columbian Art: Mexico.
117B. Advanced Studies in Pre-Columbian Art: Central America.
117C. Advanced Studies in Pre-Columbian Art: The Andes.
118A. The Arts of Oceania.
118B. The Arts of Pre-Columbian America.
118C. The Arts of Sub-Saharan Africa.
118D. The Arts of Native North America.
119A. Advanced Studies in African Art: The Western Sudan.
Bulgarian 130. Introduction to Bulgarian Civiliza-
tion.
Classics 161. Introduction to Classical Mythology.
162. Classical Myth in Literature.
166A. Greek Religion.
166B. Roman Religion.
168. Introduction to Comparative Mythology.
Dance 140A-140B-140C. Dance Cultures of the World.
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.
English 112. Children’s Literature.
German 134. German Folklore.
History 124D. History of Religions: Myth.
140A-140B-140C. Musical Cultures of the World.
141. Survey of Music in Japan.
142A-142B. Music of the Balkans.
143A-143B. Music of Africa.
147A-147B. Music of China.
148. Folk Music of South Asia.
149. Anthropology of Music.
152. Music of India.
158. New Orleans Jazz.
190A-190B. Proseminar in Ethnomusicology.
Romanian 130. Introduction to Romanian Civiliza-
tion.
Scandinavian 40. The Heroic Journey in Northern Myth and Legend.
141. Viking Civilization and Literature.
Slavic 99A-99B. Slavic Peoples and Cultures.
Sociology 124. Ethic 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.
Theater Arts 117. The Puppet Theater.
Spanish 151. Folk Song in Spain and Spanish America.
FOREIGN LANGUAGE IN TRANSLATION

The following courses offered in the departments of language and literature do not require a reading knowledge of any foreign language:

**Arabic** 150A-150B. Survey of Arabic Literature in English.

**Armenian** 150A-150B. Survey of Armenian Literature in English.

**Classes** 141. A Survey of Greek Literature in English.

142. Ancient Drama.

143. A Survey of Latin Literature in English.

**Czech** 155A-155B. Survey of Czech Literature.

**Dutch-Flemish and Afrikaans** 112. Dutch, Flemish, Afrikaans Literature in Translation.


**French** 142. Contemporary French Theater in Translation.

143. Modern French Thought.

144A-144C. The French Novel in Translation.

145. Topics in French Literature.

**German** 121A. Old German Literature in Translation.

121B. Classical German Literature in Translation.

121C. Special Problems in Literature.

121D. Modern German Literature in Translation—Narrative Prose I.

121E. Modern German Literature in Translation—Narrative Prose II.

121F. Modern German Literature in Translation—Drama and Lyrics.

121G. Modern German Jewish Literature in Translation.

**Haitian** 1A-1B. World Literature.

**Hungarian** 121A-121B. Survey of Hungarian Literature in Translation.

**Italian** 150A-150B. Survey of Italian Literature in English.

**Ivorian** 100A-100B-100C, 114A-114B-114C. Main Trends in Italian Literature and their Relation to Other European Literatures (in English).

110A-110B. The Divine Comedy in English.

M140. From Boccaccio to Balsi (in English).

150. Modern Italian Fiction in Translation.

**Jewish Studies** 151A-151B. Modern Jewish Literature in English.

**Oriental Languages** 140A-140B-140C. Chinese Literature in Translation.


**Polish** 152A-152B. Survey of Polish Literature.

**Russian** 119. Survey of Russian Literature to Pushkin.

120A-120B. Survey of Russian Literature.


125. The Russian Novel in its European Setting.

126. Survey of Russian Drama.

**Scandinavian** 40. The Heroic Journey in Northern Myth and Legend.


141. Viking Civilization and Literature.

142. Scandinavian Literature of the 18th and 19th Centuries.

143. Modern Scandinavian Literature.

144. Ibsen.

145. Strindberg.

146. Kierkegaard.

147. Hamsun.

**Serbo-Croatian** 154A-154B. Survey of Yugoslavia Literature.

**Spanish** 160A. Spanish and Portuguese Literature.

160B. Spanish American and Brazilian Literature.

**Yiddish** 121A. 20th Century Yiddish Poetry in English Translation.

121B. 20th Century Yiddish Prose and Drama in English Translation.

**French**

M274. Seminar in Ethnographic Film.

250. Indians of South America.

251A-251B. Old Russian Literature.

269Z. Ethnography of the Mexican/Chicano People in North America.

Art 216. Topics in African Art.

217. Topics in Oceanic Art.

218. Topics in Pre-Columbian Art.


220. The Arts of Africa, Oceania and Pre-Columbian America.

**Classes** 268. Seminar in Comparative Mythology.

**Comparative Literature** M229. Archetypal Heroes in Literature.

**Dance** 226A-226B-226C. Dance Expressions in Selected Cultures.

**English** 220. Readings in Medievalism.


**German** 240A. Theories, Methods and History of Germanic Folklore.

240B. Folk song and Ballad.

240C. Oral Prose Genres.

M245A. Germanic Religions and Mythology.

245B. Germanic Antiquities.

262. Seminar in Germanic Folklore.

**Italian** 214E. The Decameron.

217B. Commedia dell’arte and the Theatre.

218C. The Theater, Especially Metastasio, Goldoni, C. Guzzi.

**Music** 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.


283. Music of Thailand.

285. Music of Tibet.


**Russian** 251A-251B. Old Russian Literature.

291A. Seminar in Old Russian Literature.

**Spanish** 262B. Epic Poetry.
or out of the Department of French upon consulta-

**Plan D: French and Linguistics:** In addition to the normal preparation for the major, students are required to complete the sixth quarter of work in one of the foreign languages 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, 164 or 165A or 165B.

It is strongly advised that students who intend to pursue advanced degrees begin preparation for the language requirements at the undergraduate level. Students intending to major in French must consult a major adviser before registering for upper division courses in French. In fulfillment of their French major will, upon approval of the Dean of the College of Letters and Science, be excluded from the major in French.

Students intending to major in French must consult a major adviser before registering for upper division courses in French. For additional information, consult the Graduate School of Education (Moore Hall 201) and the Department of French (Haines Hall 160).

**Graduate Programs**

For the purposes of all graduate programs in the Department, the corpus of French literature is con-

**Requirements for the Master’s Degree (M.A.)**

The Department offers three Master’s programs: Plan A designed for teachers of French at the sec-

**Requirements for the Ph.D.**

Admission Candidates will be considered for ad-

Language requirements. Two languages up to level 5 and 6 respectively; to be chosen upon approval of the Guidance Committee among the four following: Latin, German, Italian (Plan A only), or by passing the University examination in one of these languages. In special circumstances, the Department may, upon recommendation of the Guidance Committee's suggestions in taking courses in French, be excluded from the major in French.

Students intending to major in French must consult a major adviser before registering for upper division courses in French. Major majors who have completed more than one year of French at another university before entering the M.A. program, who demonstrate the requisite attainment in French 100A, 100B, or 100C, will be accepted for the M.A. program upon recommendation of the Guidance Committee.

**Doctoral Guidance Committee**

Upon admission to the doctoral program, the student will be assigned a Doctoral Guidance Committee consisting of at least three graduate professors, including the Chairperson, normally in the student's proposed period of specialization and at least one graduate committee member is to be appointed by the Dean of the Graduate Division. The student's proposed field of specialization must be approved by the Doctoral Guidance Committee. The Guidance Committee will meet at least once during the academic year to discuss and advise the student on the progress of their dissertation.

The Guidance Committee will consist of at least three graduate professors, including the Chairperson, normally in the student's proposed period of specialization and at least one graduate committee member is to be appointed by the Dean of the Graduate Division. The student's proposed field of specialization must be approved by the Doctoral Guidance Committee. The Guidance Committee will meet at least once during the academic year to discuss and advise the student on the progress of their dissertation.

**Course work taken on a Passed/Not Passed basis is not acceptable in any area of the Major program. Students who fail to maintain a C average or better in all upper division work undertaken in fulfillment of their French major will, upon approval of the Dean of the College of Letters and Science, be excluded from the major in French.**

The Honors Program in French

Majors with a 3.6 grade point average in the Department of French and a 3.3 overall grade point average will be eligible to apply for the Honors Program in French. Interested students should contact the Professor in charge of French 140A, 140B near the end of the spring term of their junior year and should make application at that time if they wish to enter the program. Applications should include: (1) a letter in French describing the student's field of interest in French literature; (2) the student's final examination in French 100B, 100C, or 103 or a final examination or term paper from a literature course. If these materials meet with approval, the student will be called for an interview. Students admitted to the program will enroll in French 140A-140B. French 140A is a seminar taught by a member of the professorial staff. 140B is to be devoted to the preparation of an individual project, normally in the student's proposed period of specialization and will be undertaken under the guidance of a faculty member (not necessarily the instructor of 140A). Teaching Credential Requirements

Students desiring a single-subject teaching credential in French must have the approval of the French Department in order to gain admission to student teaching. For the Single Subject Teaching Credential, this approval is contingent upon a major (or the equivalent) in French and the successful completion of French 370 and 495. French 370 and 495 should end of their junior year and should make application at that time if they wish to enter the program. Applications should include: (1) a letter in French describing the student's field of interest in French literature; (2) the student's final examination in French 100B, 100C, or 103 or a final examination or term paper from a literature course. If these materials meet with approval, the student will be called for an interview. Students admitted to the program will enroll in French 140A-140B. French 140A is a seminar taught by a member of the professorial staff. 140B is to be devoted to the preparation of an individual project, normally in the student's proposed period of specialization and will be undertaken under the guidance of a faculty member (not necessarily the instructor of 140A). Teaching Credential Requirements

Students desiring a single-subject teaching credential in French must have the approval of the French Department in order to gain admission to student teaching. For the Single Subject Teaching Credential, this approval is contingent upon a major (or the equivalent) in French and the successful completion of French 370 and 495. French 370 and 495 should end of their junior year and should make application at that time if they wish to enter the program. Applications should include: (1) a letter in French describing the student's field of interest in French literature; (2) the student's final examination in French 100B, 100C, or 103 or a final examination or term paper from a literature course. If these materials meet with approval, the student will be called for an interview. Students admitted to the program will enroll in French 140A-140B. French 140A is a seminar taught by a member of the professorial staff. 140B is to be devoted to the preparation of an individual project, normally in the student's proposed period of specialization and will be undertaken under the guidance of a faculty member (not necessarily the instructor of 140A). Teaching Credential Requirements

Students desiring a single-subject teaching credential in French must have the approval of the French Department in order to gain admission to student teaching. For the Single Subject Teaching Credential, this approval is contingent upon a major (or the equivalent) in French and the successful completion of French 370 and 495. French 370 and 495 should end of their junior year and should make application at that time if they wish to enter the program. Applications should include: (1) a letter in French describing the student's field of interest in French literature; (2) the student's final examination in French 100B, 100C, or 103 or a final examination or term paper from a literature course. If these materials meet with approval, the student will be called for an interview. Students admitted to the program will enroll in French 140A-140B. French 140A is a seminar taught by a member of the professorial staff. 140B is to be devoted to the preparation of an individual project, normally in the student's proposed period of specialization and will be undertaken under the guidance of a faculty member (not necessarily the instructor of 140A). Teaching Credential Requirements

Students desiring a single-subject teaching credential in French must have the approval of the French Department in order to gain admission to student teaching. For the Single Subject Teaching Credential, this approval is contingent upon a major (or the equivalent) in French and the successful completion of French 370 and 495. French 370 and 495 should end of their junior year and should make application at that time if they wish to enter the program. Applications should include: (1) a letter in French describing the student's field of interest in French literature; (2) the student's final examination in French 100B, 100C, or 103 or a final examination or term paper from a literature course. If these materials meet with approval, the student will be called for an interview. Students admitted to the program will enroll in French 140A-140B. French 140A is a seminar taught by a member of the professorial staff. 140B is to be devoted to the preparation of an individual project, normally in the student's proposed period of specialization and will be undertaken under the guidance of a faculty member (not necessarily the instructor of 140A). Teaching Credential Requirements

Students desiring a single-subject teaching credential in French must have the approval of the French Department in order to gain admission to student teaching. For the Single Subject Teaching Credential, this approval is contingent upon a major (or the equivalent) in French and the successful completion of French 370 and 495. French 370 and 495 should end of their junior year and should make application at that time if they wish to enter the program. Applications should include: (1) a letter in French describing the student's field of interest in French literature; (2) the student's final examination in French 100B, 100C, or 103 or a final examination or term paper from a literature course. If these materials meet with approval, the student will be called for an interview. Students admitted to the program will enroll in French 140A-140B. French 140A is a seminar taught by a member of the professorial staff. 140B is to be devoted to the preparation of an individual project, normally in the student's proposed period of specialization and will be undertaken under the guidance of a faculty member (not necessarily the instructor of 140A). Teaching Credential Requirements
Final Oral Examination: (Defense of dissertation). No longer required (this does not prevent individual Doctoral Committees from imposing this examination on a candidate.)

Candidates holding an M.A. from another institution must pass a screening exam on two literary periods within the first year of their residence.

Lower Division Courses

The ordinary prerequisites for each of the lower division courses are listed under the description of these courses. Students who have had special advantages in preparation may, upon examination by a member of the department or by recommendation of the instructor, be permitted to take the course for which a higher standing is required. In all cases, students are allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition.

1. Elementary French. Sections meet five hours weekly. Not available for academic credit to those students who have completed more than one year of high school French or the equivalent. The student will, however, be credited with four units toward their minimum progress requirement.

   Ms. Brichant in charge

1R. Introduction to the Reading of French. (4 course) Classes will meet three times a week. This course is intended to enable students who are not yet familiar with the syntax and vocabulary of written French to understand the different types of written discourse. (Should not be taken concurrently with French I. Credit cannot be received for both courses.)

   Ms. Hamel in charge

1G. Elementary French for Graduate Students. (No credit) Sections meet three hours weekly.

   Ms. Brichant in charge

2. Elementary French. Sections meet five hours weekly. Prerequisite: course 1 or advanced placement standing. Not available for academic credit for those students who have completed two years of high school French or equivalent. The student will, however, be credited with four units toward their minimum progress requirement.

   Ms. Brichant in charge

2R. Intermediate Reading of French. (4 course) Classes will meet three times a week. This course will use the same text as in course 1R. It will gradually introduce texts of a more specialized nature in the various disciplines. (Should not be taken concurrently with French II. Credit cannot be received for both courses.)

   Ms. Brichant in charge

2G. Elementary French for Graduate Students. (No credit) Sections meet three hours weekly. Prerequisite: course 1G or the equivalent.

   Ms. Brichant in charge

3. Elementary French. Sections meet five hours weekly. Prerequisite: course 2 or two years of high school French or advanced placement standing.

   Ms. Hamel in charge

3R. Advanced Reading of French. (4 course) Classes will meet three times a week. This course will use the same text as in course 2R. It will be conducted in classes arranged according to field of study. (Should not be taken concurrently with French III. Credit cannot be received for both courses.)

   Ms. Brichant in charge

4. Intermediate French. Sections meet five hours weekly. Prerequisite: course 3 or three years of high school French or advanced placement standing.

   The Staff

4G. Conversational French for Graduate Students. (No credit) Classes meet three hours weekly.

   The Staff

5. Intermediate French. Sections meet five hours weekly. Prerequisite: course 4 or four years of high school French or advanced placement standing.

   The Staff

6. Intermediate French. Sections meet five hours weekly. Prerequisite: course 5 or advanced placement standing.

   The Staff

7. Advanced French. Sections meet five hours weekly. Prerequisite: course 6 or advanced placement standing.

   The Staff

10A-10D. French Conversation. (4 course each) Sections meet three hours weekly. Prerequisite: course 3 with grade A or B plus permission of the Department.

   The Staff

12. Introduction to the Study of French Literature. Classes meet three hours weekly. Prerequisite: course 6 or (equivalent) or permission of the instructor. Principles of literary analysis as applied to selected texts in poetry and prose.

   The Staff

15. Theory and Correction of Diction. Classes meet four hours weekly. 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 and 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. (No credit)

   Ms. Brichant

31A. From the origins through the Renaissance.

   Ms. Brichant

31B. From the Renaissance to the 20th century.

   Ms. Brichant

31C. Contemporary France.

Upper Division Courses

The prerequisites to all upper division courses taken in partial fulfillment of the French major are French 6 with a grade of B or better (otherwise French 7 with a grade of C or better), French 12, French 13 or their equivalents. All upper division courses except as otherwise indicated are conducted in French. Credit will not ordinarily be allowed for completing a less advanced course after satisfactory 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) course 15, or the equivalent. A placement examination will be administered and qualified students will be advanced to French 100B or 100C.

   The Staff

100B. Advanced Grammar II. Prerequisite: course 100A or the equivalent. A placement examination will be administered and qualified students will be advanced to French 100C or to 103C. The Staff

100C. Advanced Grammar III. Prerequisite: course 100B or the equivalent. A placement examination will be administered and qualified students will be advanced to French 103.

   The Staff

103. Advanced Stylistics. Classes meet three hours weekly. Prerequisite: course 100C or the equivalent. This course is 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. Classes will meet once a week. Prerequisite: course 103 or the consent of the instructor.

   Ms. Perret

105. French Linguistics. Classes will meet three hours weekly. Prerequisite: consent of the instructor.

   Ms. Perret

106. Advanced French Phonetics. Classes meet twice weekly. Prerequisite: consent of the instructor.

   Ms. Korol-Ward

107. Contemporary Spoken French. Classes will meet three hours weekly; laboratory sessions may be added as needed. Prerequisites: course 103 or consent of the instructor.

   The Staff


   108A. Classes will meet three hours weekly. 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.

   The Staff

NOTE: For key to symbols, see page 74
and approaches used on the French stage. Each student will act or direct a scene from a play to be performed under rehearsal conditions.

Ms. Korol–Warb

132. Contemporary France. Classes meet three hours weekly. A fourth hour may be required for the viewing of films and other laboratory activities. Ms. Brichant

133. French Institutions from the Revolution to the Present. Classes meet three hours weekly. A fourth hour may be required for the viewing of films and other laboratory activities. Ms. Brichant

134. The \textquoteleft\textquoteleft Ancien Régime." Classes meet three hours weekly. A fourth hour may be required for the viewing of films and other laboratory activities. Ms. Brichant

135. From Prehistoric Times to the Renaissance. Classes meet three hours weekly. A fourth hour may be required for the viewing of films and other laboratory activities. Ms. Brichant

136. Cinema and Literature in Contemporary France. Classes meet three hours weekly. Additional hours may be required for the viewing of films and other laboratory activities. Course may be taken as an elective in partial fulfillment of French Majors Plans A, B, and C. The Staff

140A-140B. Honors Program in French. Prerequisites: junior or senior standing in French with 3.6 grade-point average in the major, a 3.3 overall average and consent of the Department.

140A. Honors Seminar in French. Seminar on a specific topic in French literature. Readings, oral reports, discussion. The Staff

140B. Honors Tutorial in French. Prerequisite: course 140A. Individual study on a topic related to that of 140A, leading to an essay to be written under the guidance of a faculty member. Mr. Gans in charge

Undergraduate Seminars

Courses 150-157 may be repeated once for credit with the consent of the major adviser.

150. Studies in Medieval Literature. The Staff

151. Studies in Sixteenth Century Literature. The Staff

152. Studies in Seventeenth Century Literature. The Staff

153. Studies in Eighteenth Century Literature. The Staff

154. Studies in Nineteenth Century Literature. The Staff

155. Studies in Twentieth Century Literature. The Staff

156. Studies in Contemporary Literature of French Expression. The Staff

157. Studies in the French Language. The Staff

158. The Woman in French Literature. This course will explore a selected aspect of the situation of woman in French literature as author, character, symbol, etc. The Staff

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. The course may be repeated for credit with the approval of the major adviser. The Staff

161. Special Studies in French. (To 2 courses) Prerequisite: junior or senior standing, consent of the instructor and consultation with Chairman of major advisers. Course may be taken twice.

Department Chairman in charge

Courses in English

The following courses may not be taken for graduate credit; they may be taken as out-of-department electives for the Undergraduate Majors.

142. Contemporary French Theater in Translation. Classes meet two hours weekly. This course may be considered as an out-of-department elective for the purpose of satisfying major requirements. Ms. Korol–Warb

143. Modern French Thought. Classes meet two hours weekly. Contemporary works will be read and discussed in translation. Course may be taken as an elective in partial fulfillment of French Major Plan C. Course may be considered as an out-of-department elective for the purpose of satisfying major requirements. The Staff

144A-144C. The French Novel in Translation. Classes meet two hours weekly. Authors to be studied will be announced quarterly. Course may be considered as an out-of-department elective for the purpose of satisfying major requirements. The Staff

145. Topics in French Literature. To be announced each quarter. This course 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. The Staff

Graduate Courses

201A. Theme. Course meets three times weekly. Advanced translation into French. The Staff

201B. Version. Course meets three times weekly. Advanced translation into English. The Staff

201C. La Dissertation Francaise. Course meets three times weekly. Advanced composition. The Staff

201D. Problems of French Literary Composition. Course meets three times weekly. Practical work of an advanced nature in the expression and presentation of literary research. The Staff

202. Explication de Textes. Mr. Bensimon

203A-203B-203C. French Literary Criticism. Mr. Bensimon

203A. Topics in Literary Criticism from Aristotle to Sainte–Beuve. Mr. el Nouty, Mr. Gans

203B. Modern Theories of Criticism. Mr. el Nouty, Mr. Gans

203C. The Techniques of Literary Criticism. Mr. Coleman, Mr. Gans

204A. Phonology and Morphology from Vulgar Latin to French Classicism. The evolution of the French language. Required of candidates for the Ph.D. in Romance Languages and Literatures who emphasize philology. Ms. Perret

204B. Syntax and Semantics from Vulgar Latin to French Classicism. The evolution of the French language. Required of candidates for the Ph.D. in Romance Languages and Literatures who emphasize philology. Ms. Perret

205A-205B-205C. The Intellectual Background of French Literature. Mr. el Nouty

205A. Scholasticism (with ancient sources); Humanism. Mr. el Nouty

205B. Rationalism, Empiricism, Positivism. Mr. el Nouty

205C. Idealism, Phenomenology, Existentialism. Mr. el Nouty

206. French Linguistics. Prerequisites: Linguistics 100 or French 105, or the equivalent. Discussion of modern linguistic theory in the area of French grammar, syntax and semantics. Mr. Perret

207. Introduction to Stylistics. Discussion of the basic stylistic devices of the French language. Mr. Perret


215A. Old and Middle French. This course is prerequisite to courses 215B-215E. Phonology and morphology of the language. Introduction to Old French texts. Mr. Burke

215B. The Chanson de geste. Mr. Burke

215C. The Romance. Mr. Burke

215D. Medieval Theater. Mr. Burke

215E. Provencal Poetry. Mr. Bensimon

216A-216H. The Renaissance. Mr. Bensimon

216A. Topics in early sixteenth century French literature. Mr. Bensimon

216B. Topics in the Pleiade. Mr. Bensimon

216C. Topics in late sixteenth century French literature. Mr. Bensimon

216D. Ronsard. Mr. Bensimon

216E. Rabelais and Prose Writers. Mr. Bensimon

216F. Baroque Poetry. Mr. Bensimon

216G. Montaigne. Mr. Bensimon

216H. Theater. Mr. Bensimon

217A-217I. The Seventeenth Century. Mr. Melzer

217A. Topics in Classical Theater. Mr. Melzer

217B. Topics in Non-Dramatic Literary Genres. Mr. Melzer

217C. Topics in Classical Prose and Thought. Mr. Melzer

217D. Moliere. Mr. Melzer

217E. Corneille. Mr. Melzer

217F. Racine. Mr. Melzer

217G. The Novel. Mr. Melzer

217H. Moralists. Mr. Melzer

217I. Religious Thought. Mr. Melzer

218A-218D. The Eighteenth Century. Mr. Coleman, Mr. Werner

218A. Topics in the Early Enlightenment. (1680-1757). Mr. Coleman, Mr. Werner

218B. Topics in the Enlightenment. (1748-1763). Mr. Coleman, Mr. Werner

218C. Topics in the Late Enlightenment. (1766-1791). Mr. Coleman, Mr. Werner

218D. The Theater. Mr. Coleman, Mr. Werner

219A-219K. The Nineteenth Century. Mr. el Nouty, Mr. Gans

219A. Topics in Romanticism. Mr. el Nouty

219B. Topics in Realism and Naturalism. Mr. el Nouty

219C. Topics in Symbolism. Mr. el Nouty

219D. Poetry. Mr. el Nouty

219E. The Novel. Mr. el Nouty

219F. The Theater. Mr. el Nouty

219G. Historians and Critics. Mr. el Nouty

219H. Victor Hugo. Mr. el Nouty

219I. Balzac. Mr. el Nouty

219J. Independent Novelists. Mr. el Nouty

219K. Intellectual Trends. Mr. el Nouty

220A-220P. The Twentieth Century. Mr. Pucciani

220A. From Symbolism to Surrealism. Selected topics. Mr. Pucciani

220B. From Surrealism to Existentialism. Selected topics. Mr. Pucciani

220C. From Existentialism to the Present. Selected topics. Mr. Pucciani

220D. Paul Valery. Mr. Pucciani

220E. Marcel Proust. Mr. Pucciani

220F. Andre Gide. Mr. Pucciani

220G. Andre Malraux. Mr. Pucciani

220H. The Theater. Mr. Pucciani

220I. The Anti-Theater. Mr. Pucciani

220J. The Novel. Mr. Pucciani

220K. The Anti-Novel. Mr. Pucciani

220L. Surrealism. Mr. Pucciani

220M. Existentialism. Mr. Pucciani

220N. Poetry. Mr. Pucciani

220O. Cinema and Literature. Mr. Pucciani

221A-221D. French-African Literature. Mr. el Nouty
A geographer is concerned with the origins, development, morphology, and processes of the lands, man has inherited from nature, and with the institutions and patterns associated with the human use of these landscapes. This information helps the geographer to predict the nature and direction of future change. A geographer is a person who has eyes for the world around him or her, concern for the processes and dynamics of the changes that shape that world, and interest in helping to chart future growth along lines of rational development and careful consideration of both human and non-human resources.

One or more of four general objectives may be recognized by those persons who select the Major in Geography, namely: (1) a broad understanding of the Earth and its many environments 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 allied fields, leading to advanced degrees and professional occupation in both academic and non-academic areas; and (4) preparation for the student who desires a teaching credential with specialization in Geography and the physical, biological, or social sciences.

Students majoring in Geography are encouraged to consult the Undergraduate Advisor (Geography) for the planning of a program suitable to the student’s particular and individual objective. All faculty and other appropriate resources of the Department of Geography are available to Geography majors, though it is realized that students will work more closely with some faculty members than with others. The Undergraduate Advisor (Geography) advises majors concerning the faculty and other resources most pertinent to student needs.

**Preparation required.** Geography 1, 2, 3, 4, and Mathematics 50A or equivalent are required of all majors. A Mathematics background, such as Mathematics 3A-3B, 3C or 4A-4B or 31A-31B-31C, is recommended. All prospective majors, including transfer students; should consult the Undergraduate Advisor (Geography) before arranging a program in Geography and the allied fields.

**Foreign language or 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 one quarter course. A score of 500 on an Educational Testing Service (ETS) language examination will also satisfy this requirement. In mathematics, only Mathematics 3A-3B, 3C, and two courses from 4A-4B, or 31A-31B-31C, or equivalent are acceptable. This requirement may be satisfied on a Pass-No Pass basis or by a letter grade, but Pass or at least a C grade is required in all courses intended to satisfy this departmental requirement. These courses may be used to meet the Breadth Requirements of the College of Letters and Science.

**Major requirements.** The major requires a minimum of 10 upper division courses in Geography chosen in consultation with the appropriate Undergraduate Advisor and taken for a letter grade. In meeting this minimum requirement, each major must take three courses from Group I – The Environment; three courses from Group II – Humanities; and three courses from Group III – Procedures; and two courses from Group IV – Regions; and one elective upper division course in Geography. Majors are encouraged to take more than ten upper division courses.

**Allied fields.** Every Geography major shall develop some confidence in another discipline. 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; Archaeology; Atmopshere; Chemistry; Earth and Space Sciences; Economics; Folklore; History; Management; Mathematics; Philosophy; Physics; Political Science; Psychology; Public Health; Sociology. Other disciplines require

**GENETICS**

For courses in genetics, see under departments of Bacteriology and Biology.

**GEOCHEMISTRY (INTERDEPARTMENTAL)**

(See Earth and Space Sciences.)

**GEOGRAPHY (Department Office, 1255 Bunche Hall)**

Charles F. Bennett, Ph.D., Professor of Biogeography.
C. Rainer Berger, Ph.D., Professor of Geography and Geophysics.
Howard Bloom, Ph.D., Professor of Geography.
William A. V. Clark, Ph.D., Professor of Geography.
Gary S. Dunsbar, Ph.D., Professor of Geography.
Huey L. Konstanack, Ph.D., Professor of Geography.
Richard Logue, Ph.D., Professor of Geography.
Tom L. McKeight, Ph.D., Professor of Geography (Chairman of the Department).
Howard J. Nelson, Ph.D., Professor of Geography.
Antony D. Omer, Ph.D., Professor of Geography.
Jonathan D. Sauer, Ph.D., Professor of Geography.
Werner H. Tschang, Ph.D., Professor of Geography.
Benjamin L. Thomas, Ph.D., Professor of Geography.
Norman J. W. Thower, Ph.D., Professor of Geography.
Robert M. Glendinning, Ph.D., Emeritus Professor of Geography.
Clifford H. MacFadden, Ph.D., Emeritus Professor of Geography.
Joseph L. Spencer, Ph.D., Emeritus Professor of Geography.
Gerry A. Hale, Ph.D., Associate Professor of Geography.
Christopher A. Saffer, Ph.D., Associate Professor of Geography.
Hartmut Walter, Ph.D., Associate Professor of Geography.
Walter E. Westman, Ph.D., Associate Professor of Geography.
John R. Clark, Ph.D., Assistant Professor of Geography.
Nicholas Entrikin, Ph.D., Assistant Professor of Geography.
James D. Hulft, Jr., Ph.D., Assistant Professor of Geography.
Stanley W. Trumbull, Ph.D., Assistant Professor of Geography.

**Geography as a Major**

The Department of Geography offers a choice between two undergraduate majors: (1) the Major in Geography; and (2) the Major in Analysis and Conservation of Ecosystems. Prospective majors are urged to discuss the nature and opportunities of each program with the appropriate Undergraduate Advisor. In both programs, the Department is committed to effective quality education concerning the manifold interactions of environment and society. As such, all students shall take three courses in close and frequent association with faculty members appropriate to their interests. Students are assured of a warm response from faculty members in whose fields of special science, but in its use of data, its search for cause and effect, and its understanding of process and response. Geography offers a unique approach to the study of the character and problems of the world we live in.

In essence, Geography is concerned with three aggregate aspects of the world around us: 1) the physical and biological characteristics, processes and responses observable at or near the Earth’s surface; 2) the activities by which men and women have modified this natural environment, both past and present; and 3) the order and disorder that these human activities have created in sculpturing the natural and artificial landscapes. Tools and concepts of the physical, biological, and social sciences are used to analyze and explain these varied phenomena.

**Individual Study and Research**

Directed Individual Studies or Research. (1 to 2 courses)

The Staff

NOTE: For key to symbols, see page 74
departmental approval on an individual case basis in order to be classified as acceptable.

All courses that are required for the undergraduate major may be taken for a letter grade. This includes all lower and upper division courses in Geography, and all four upper division courses in the Allied Fields.

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.

The Major in Analysis and Conservation of Ecosystems

The Major in Analysis and Conservation of Ecosystems offers a choice between two plans, each of which has its foundations within the Department of Geography but is essentially interdisciplin- ary in scope.

Plan 1 is designed primarily for students seeking a general education that focuses on understanding the problems and issues related to past, present and future human manipulation and utilization of the world's ecosystems. It is also suited to those students who wish to lay the foundation for educational contributions to non-academic society via the principal communicative media. This Plan is also suitable as preparation for graduate school.

Plan 2 is designed primarily for students who wish to focus on environmental problems and issues. Students who wish to pursue future work at the graduate level beyond the Geography Department, must be taken within and beyond in various aspects of the analysis and conservation of ecosystems. Like Plan 1, Plan 2 is deliberately broad in scope but is more rigorous in terms of the preparation and course work required.

Both Plan 1 and Plan 2 have certain features of which students should be apprised. First, a high degree of emphasis is placed on student input and student-faculty interaction — particularly with respect to seminars. It is therefore essential that close liaison be developed and maintained between all persons involved. The faculty is particularly receptive to student enthusiasm. Second, students majoring in Analysis and Conservation of Ecosystems are encouraged to consult with the Undergraduate Advisor (Ecosystems) for the planning of a program suitable to the student's particular objectives. All faculty and other appropriate resources of the Department of Geography are available to Ecosystems majors, though it is realized that students will work more closely with some faculty members than with others. The Undergraduate Advisor (Ecosystems) advises majors concerning the faculty and other resources most pertinent to student needs. Third, all courses that are required for the Major in Analysis and Conservation of Ecosystems, both within and beyond the Geography Department, must be taken for a letter grade. This includes all lower and upper division courses including electives chosen to complete the Major.

A "C" average in the major is required for graduation.

Honors Program: Honors may be obtained by students majoring in either Plan I or Plan II of the Analysis and Conservation of Ecosystems as follows: Attainment and maintenance of at least a 3.5 grade point average in courses from commencement of senior year to graduation, and completion of Geography 196—Senior Thesis in Ecosystem Analysis. The Senior Thesis is a substantial though not necessarily lengthy contribution to ecosystem analysis and is expected to be committed to the personal faculty member concerned not later than early in student's final quarter. The topic is selected by the student in consultation with one or more faculty members, and a plan of work with the Undergraduate Advisor (Ecosystems) from whom further guidelines may be obtained.

Plan I

Preparation required. Biology 2; Geography 1, 2, 5; and Mathematics 50A, are required of all majors.

Geography 3 and 4 are recommended. A Mathematics background, such as Mathematics 2, 3A-3B-C, or 3A-3B-SC is recommended. All prospective majors, including transfer students, should consult the Undergraduate Advisor (Ecosystems) before arranging a program in the Analysis and Conservation of Ecosystems.

Major requirements. Economics 100; Geography 129; three courses chosen from Geography Group Ia; two courses chosen from Geography Group Ib and one course from Geography Group III.

Electives. Six courses should be chosen from the following list with the assistance of a faculty advisor: Anthropology 153, 160; Art 168A, 168B; Architecture M190; Economics 110, 111, 170; Geography: more than three courses from 100 to 199; one course only from History 106A-J, Journalism 182A, 182B, 192; Political Science 141, 142; Public Health 150, 152, 186; Sociology 125, 126.

Although there is no foreign language requirement for Plan I, students are encouraged to acquire some foreign language capability so as to gain access to pertinent literature written in languages other than English.

Plan 2

Preparation required. Biology 5, 6; Chemistry 11A: Geography I, 2, 5; Mathematics 3A-3B-C, or 3A-3B-SC1, and 50A, and Engineering 105 are required of all majors. Geography 3 and 4, Mathematics 50B are recommended. English 110, 111, 112 are recommended. A reading knowledge of a modern foreign language is required; this may be met by three years of language at High School or three quarters of one language at College level.

Major requirements. One course chosen from Biology 103 or 109 or 111 or 118; Economics 100, Geography 129; three courses from Geography Group Ia; two courses from Geography Group Ib and two courses from Geography 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 the following list with the assistance of a faculty advisor: Anthropology 153, 160; Biology 103, 109, 111, 118, 120, 122, 125, 131, 147; Earth and Space Sciences 139; Economics 111, 170; Engineering M107A, 180A, 181A, 184A, 184D; Geography: more than three courses from 100 to 199; Political Science 141, 142; Public Health 102, 152; Sociology 126, 141, 145.

Biology course taken for elective requirement may not be used to fulfill major requirement in Biology.

Admission to Graduate Status

Students are admitted to the Graduate Program of the Department of Geography for the fall, winter or spring quarter. The applicant must, in addition to the application to the Graduate Admissions Office, send a complete set of transcripts to the Graduate Adviser, Department of Geography.

For admission to graduate status in the Geography Department a student should normally have completed the undergraduate major or its equivalent, have received either a B.S. degree or its equivalent from an accredited college or university; and have maintained a high grade-point average in courses taken in the junior and senior years and in the major field. Prospective students are required to take the Graduate Record Examination of Ecosystems and in addition, to provide the Department with three letters of evaluation from previous instructors. Students not meeting the grade-point average requirement may be admitted as special students if their letters of evaluation and their Graduate Record Examination scores or other evidence indicate that they have unusual promise. Students may be admitted with subject deficiencies, but such deficiencies will have to be removed before the student can apply for candidacy.

Information and applications for the Graduate Record Examination may be obtained by writing to the Educational Testing Service, 4747 Center Street, Berkeley, California 94704 or Box 955, Princeton, New Jersey 08540.

Requirements for students entering the graduate program from beyond Departments of Geography: Non-geography students entering the department program from another field will be required to show proficiency in 6 Upper Division Geography courses (additional to those required for the M.A.) including 3 courses on Environment, 1 course on Conservation of Ecosystems, and 3 courses from Group II (Human Geography), embracing at least 1 course each from Groups Ia, Ib, Ia, and Ib.

Requirements for the Master's Degree

For general admission requirements, see Graduate Admissions.

The M.A. degree may be obtained either by the Thesis Plan or the Comprehensive Examination Plan.

Spring Quarter Review. The Department holds a review of all graduate students every Spring Quarter. To this end, all graduate students should have designated a committee chairman or interim advisor, and have completed a simple form detail- ing program and accomplishments prior to Spring Quarter. The results of this review will determine whether or not the student shall be permitted to proceed toward the degree.

General requirements: The student in residence must include at least ten courses, including a minimum of seven courses at the graduate level, of which Geography 200 and 201, and at least one seminar in Geography are required. The student's program must include the approval of the graduate student's committee. Geography 200 must be taken at the earliest opportunity.

Research tool. At least one research tool is required for graduate study. This is a minimum requirement and is subject to the approval of the graduate student's committee at both the M.A. and Ph.D. levels, prior to advancement to candidacy.

Interim Advisor, Informal Guidance Committee, and subsequent Thesis or Examination Committee. Early in the first quarter of residence each candidate is required to seek an informal guidance committee, headed by an interim advisor from among the faculty, in consultation with the Graduate Advisor. The interim advisor may be changed as the candidate's plans and objectives change, subject to the normal courtesies of informing the Graduate Advisor and others involved. At a time agreed upon by the student and his informal guidance committee, an official three-person Graduate Division Committee, including a chairman, will be appointed. This committee is responsible for the candidate's course of study henceforth, and supervises the preparation of the Master's thesis or the Comprehensive Examination Plan.

Thesis Plan. Under the Thesis plan, each student 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 candidate should submit a written statement to all members of the Thesis Committee, describing in some detail the problems and issues related to the thesis proper. This 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 course work, including the completion of 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 the candidate completes his work for the degree. It will normally consist of three half-day written examinations encompassing areas of general knowledge drawn from the broad divisions of geography. The examination is designed to test for broad grasp of subject, as well as the more specialized abilities of the candidate. A student who fails any part of the Comprehensive Examination may be re-examined.
once. Such re-examination must take place within one calendar year of the failure. A student who completes the M.A. degree by the Comprehensive Examination plan may not continue for a Ph.D. degree in this department.

Advancement to Candidacy. A student must file an application for advancement to Candidacy no later than the second week of the quarter in which the degree will be awarded.

Individual Study Courses. The following rules pertain to individual study courses (Geography 199, 596, 597, 598, 599) are applicable to all graduate students, and have completed a Master's degree by the Comprehensive Examination, must file an application for advancement to Candidacy no later than the second week of the quarter in which the degree will be awarded.

(1) Only one 500-series course may be applied to the minimum graduate course requirements for advanced degrees.

(2) All 500-series courses are to be taken on a S/U basis only.

(3) A student may not take Geography 199 or 596 in a given term unless he/she is also taking at least one formal course during that term.

(4) In any given term a student may not take more than 8 units of Geography 199 or 596.

(5) A student may enroll in Geography 597, 598 or 599 as many times as he or she wishes.

An M.A. degree must be completed within five calendar years of admission to graduate status at UCLA.

Requirements for the Doctor's Degree

For general admission requirements, see Graduate Admissions.

An M.A. or M.S. degree, with a geography specialty and a high grade point average in graduate studies is recommended for all students undertaking work toward the Ph.D. degree. Anyone entering the doctoral program who has not previously written a Master's thesis must, during his first quarter of residence, produce clear evidence of substantive research and writing ability, to the satisfaction of the faculty. Any student 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 a student may proceed directly toward the Ph.D. degree without taking a Master's degree if the following conditions are met:

(1) The student must be enrolled in the UCLA M.A. program in geography and have a superior (4.0) grade point average.

(2) The student must be recommended for a direct Ph.D. by the M.A. guidance committee who will bring the matter before the entire faculty.

(3) The student must have three letters of recommendation in addition to one from his interim advisor or chairman.

(4) The student must receive the approval of at least 2/3 of the current Geography faculty in residency by secret ballot.

Spring Quarter Review. The Department holds a review of all graduate students every Spring Quarter. To this end, all graduate students should have designated a committee chairman or interim advisor, and have completed a simple form detailing program and accomplishments prior to Spring Quarter. The results of this review will determine whether or not the student shall be permitted to proceed toward the Ph.D. degree.

Course requirements. Ph.D. students must satisfactorily complete Geography 200 and 201 if these have not already been taken at the M.A. level. Students are also required to take at least three graduate geography courses additional to their M.A. course work (excluding 200, 201, and the 500 series) and three upper division or graduate courses in one or two fields allied to their main field, subject to approval by their committee. The allied field requirement may be met at anytime during graduate status. Geography 200 must be taken at the earliest opportunity. For regulations concerning

Individual Study Courses (199 and 500 series), see Requirements for the Master of Arts degree.

Research tool. At least one research tool is required for graduate study. This is a minimum requirement and is subject to approval by the graduate student's committee at both the M.A. and Ph.D. levels. Prior to advancement to Candidacy, the student must have completed a research proposal prepared by the candidate and accepted by the Geological and Physical Sciences Committee. This proposal should specify the objectives, methodology, and scientific background of the research envisaged. Successful completion of the oral qualifying examination includes acceptance of the student's qualifications for doctoral research and completion of the Written Qualifying Examinations. This committee will consist of at least five faculty members, including one from the Department of Geography, of whom one will be chair. The oral examination focuses on the dissertation research proposal prepared by the candidate and distributed to all committee members at least one month prior to the exam. This proposal should specify the objectives, methodology, and scientific background of the research envisaged. Successful completion of the oral qualifying examination includes acceptance of the student's qualifications for doctoral research and approval in principle of the dissertation proposal, subject to minor modifications in design and methodology as the committee may recommend. A student who has successfully completed the oral qualifying examination is eligible for candidacy. At the end of the candidate's successful oral qualifying examination, the Chair and members of the committee, in consultation with the student, shall determine which of its members will guide, read, approve and certify the dissertation. At least two members from the student's department faculty will be certifying members of the doctoral committee.

The Dissertation. The dissertation is the ultimate focus of each student's Ph.D. program and demonstrates an ability for independent investigation in a selected field of study. The dissertation should be organized 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 professional journal.

Final Examination. A final oral defense of the dissertation may be required by the Dissertation Committee. This examination may be held at any time mutually agreed upon by the candidate and his committee, provided that the dissertation is essentially complete.

A Ph.D. degree must be completed within seven calendar years from the initiation of work on the degree (for candidates from beyond UCLA), or five calendar years from the initiation of work on the degree (for candidates who obtained an M.A. degree from UCLA).

Teaching Credentials. Students may earn credentials for teaching geography and related subjects in California elementary and secondary schools. Completion of the Teacher Credential Program in the Teacher Education Laboratory is required. Consult with the College of Education (201 Moore Hall) for information.

Lower Division Courses

Check with departmental office to learn of additional offerings, seminar topics, and specific instructors for the quarter you wish to enroll in courses in geography.

1. Physical Geography

For general admission requirements, see Graduate Admissions.

(1) Physical Geography

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.

The Staff

2. Biogeography

Lecture, three hours; laboratory, one hour. Prerequisite: course 1 or equivalent. A presentation of the concepts and data needed to understand the significance of the principles which influence the geography of soils, plants, and animals.

The Staff

3. Cultural Geography

Lecture, three hours; discussion, one hour. A broad examination of the basic cultural variables in the human occupancy of the earth's surface. The approach is ecological, spatial, and historical.

The Staff

4. Human Location and Behavior

Lecture, three hours; laboratory, one hour. An examination of the historical and contemporary roles of man as a major agent of biological change in the earth ecosystem.

The Staff

10. Freshman Seminar in 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 geography and human environment. Faculty, staff, and seminar topics will be advertised in the Department during previous quarter.

The Staff

Upper Division Courses

GROUP I: THE ENVIRONMENT

1. Basic Environmental Studies

M102. Geomorphology. (Same as Architecture and Urban Planning M196.) Lecture, three hours; reading period, one hour. Prerequisites: course 1 or equivalent. An introduction to the processes responsible for shaping the world's landforms with emphasis on the relationship between the energy and materials involved and the magnitude and organization of the surface forms produced.

Mr. Orme

104. Climatology

Lecture, three hours; reading period, one hour. The many relations between climate and the world of man are examined. The objective is to apply basic energy budget concepts to the relationships of climate to the ecosystems of agriculture, animals, man and urban places.

Mr. Terjung

105. Hydrology

Lecture, three hours; reading period, one hour. Prerequisite: course 1 or equivalent. The role of water in geographic systems: hydrologic phenomena in relation to climate, landforms, soils, vegetation, and cultural processes and impacts on the landscape. Field projects required.

Mr. Trimble

106. Soils

Lecture, three hours; reading period, one hour. Prerequisites: course 1 or equivalent; Chemistry 1A or 2A, or consent of instructor.
study of the origins, evolution, properties and utilization of soils, with special emphasis on the world’s major soil groups.

The Staff

108. World Vegetation. (Formerly numbered 110.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2 or equivalent, or consent of instructor. Description and analysis of the biogeographic and ecological and social problems associated with the conservation of natural resources of the underdeveloped world.

Mr. Bennett

122. Man and Environment in Africa. (Formerly numbered 119.) Lecture, three hours; discussion, one hour. Prerequisites: courses 1, 2 or equivalent. An analysis of the unique ecosystems of tropical and subtropical Africa with respect to traditional and modern human impacts on vegetation, wildlife, and other resources. Emphasis on the development goals in relation to socio-economic policies and Africa’s environmental heritage.

Mr. Walter

124. Environmental Impact Analysis. (Formerly numbered 164.) Lecture, three hours; discussion, one hour. Prerequisites: courses 1, 2, 3 or equivalent. A study of the evolution of the cultural landscapes of the area that is now the United States. Examination of the histories and geographies of and of the social and environmental changes through time.

Mr. Dunbar

136. Historical Geography of the United States. (Formerly numbered 144.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of the factors and processes affecting the size and shape of the United States, and the internal structure of cities, rural land use and industrial location.

Mr. Entrikin, Mr. Huff

11B. Economic and Urban Geography

145. Spatial Organization of Society: Structure. Lecture, three hours; reading period, one hour. Prerequisites: course 4, Elementary Statistics, or consent of instructor. A study of the spatial distribution of society as an expression of human decisions and their consequences. Emphasis is on the processes affecting city size and shape, the internal structure of cities, rural land use, and industrial location.

Mr. Entrikin, Mr. Huff

148. Economic Geography. (Formerly numbered 160.) Lecture, three hours; reading period, one hour. Prerequisites: course 4, Elementary Statistics, or consent of instructor. A study of the factors and processes affecting the size and shape of the United States, and the internal structure of cities, rural land use and industrial location.

Mr. Entrikin, Mr. Huff

149. Transportation Geography. Prerequisite: course 3 or 4 or upper division standing. A study of the geographical aspects of transportation, focusing on the characteristics and functions of the various modes and on the complexities of intra-urban transport.

Mr. McKnight

150. Urban Geography. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. An analysis of the development, functions, spatial patterns and geographic problems of American Cities.

Mr. W. Clark, Mr. Entrikin, Mr. Nelson

151. Historical Geography of Cities. Prerequisites: course 3 and 4, or equivalent, or upper division standing. A survey of the diffusion and growth of cities in Western civilization. Two themes will be emphasized, the development of city systems and the evolution of urban internal spatial structure.

Mr. Entrikin

Ila. Cultural and Historical Geography

130. Geographical Discovery and Exploration. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3 or equivalent, or upper division standing. A survey of the history of exploration, from earliest times to modern, with emphasis on the period from Marco Polo to the present.

Mr. Dunbar, Mr. Thrower

132. Cultural Geography of the Pre-Modern World. Lecture, three hours; reading period, one hour. Prerequisite: course 3 or equivalent. An evolutionary and structural approach to the sociocultural geography of the earth prior to the 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, semi-periphery, and periphery.

Mr. Hale, Mr. Salter
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 will include rural to urban migration, cities as centers of power, spatial organization, and the tendency to megapolitanization.

Mr. W. Clark, Mr. Entringer

156. Metropolitan Los Angeles. Lecture, three hours; reading period, one hour. Prerequisites: 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. Class enrollment limited to fifteen students. A meets once a week 4-5 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 the previous work.

The Staff

GROUP III: PROCEDURES

160. Field Analysis: Physical Geography. (Formerly numbered 170.) Saturday field trips, 8-5. Prerequisites: courses 1, 2, or equivalent, and consent of the instructor. A student enrolling in this course must notify department chairman of his wish, in writing, at least two quarters in advance of enrolling in this course. The basic methods of geographic analysis of small areas, embracing a variety of physical environments in southern California and including consideration of related human activities. Chiefly field training.

Mr. Logan, Mr. Trimble

161. Field Analysis: Cultural Geography. (Formerly numbered 179) Field work courses: courses 1, 3, 132, 133, at least two upper division courses in geography and consent of instructor. Enrollment priority is given to students majoring in geography. The class meets once a week 6-7 in which the observation, analysis and mapping of landscape phenomena of human origin. Techniques of data collection will be examined for such topics as settlement form and pattern, environmental change, historical and demographic change, and land use.

Mr. Salter

162. Field and Laboratory Analysis: Geomorphology, Climatology, Hydrology. Laboratory and field, eight hours per week. Prerequisites: courses 1, 2, or equivalent; two courses from 102, 104, 105. Open to Geography and Ecosystems majors only with enrollment priority accorded Ecosystems majors. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis and interpretation of phenomena pertinent to the physical environment and interrelated human influences.

The Staff

163. Field and Laboratory Analysis: Biogeography. Laboratory and field, eight hours per week. Prerequisites: courses 1, 3, or equivalent; two courses from 106, 108, 109, 112. Open to Geography and Ecosystems majors only with enrollment priority accorded Ecosystems majors. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis, and interpretation of phenomena pertinent to biogeography and interrelated human influences.

The Staff

166. Map Analysis. (Formerly numbered 171.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3 or equivalent, or upper division standing. The analysis of maps, with the aim of deducing the physical, cultural and economic aspects of the region portrayed, including such elements as geomorphic history, hydrography, settlement history, forms of economic livelihood, transportation problems and topography.

Mr. Logan

167. Cartography. (Formerly numbered 172.) Lecture, three hours; laboratory, five hours; independent work, two hours. Prerequisites: courses 1, 3, or equivalent, or consent of instructor. Survey of the techniques of modern cartography and methods of representation of map projections, compilation procedures, principles of generalization, symbolization, terrain representation, lettering, drafting and scripting, and map reproduction methods.

The Staff

168. Computer Cartography. (Formerly numbered 175.) Lecture, one hour; laboratory, three hours; independent study, two hours. Prerequisites: course 167 or consent of instructor. Theory and methods of mapping quantitative information with a computer. Includes problems of digitizing, storing, and processing machine readable map data and representing them as point symbols and surfaces.

Mr. J. Clark

169. The Earth from Above. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, or equivalent; three upper division courses in geography and consent of instructor. This course explores the interface between cartography and remote sensing. By means of a wide variety of imagery from maps and satellite photos, different landscapes are analyzed and explained.

Mr. W. Clark

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. W. Clark

171. Quantitative Analysis. (Formerly numbered 176.) Lecture, three hours; laboratory, one hour. Prerequisites: Mathematics 50B or consent of instructor. An introduction to the methods of measurement and interpretation of geographic distributions and associations.

Mr. W. Clark

M178. Dating Techniques in Environmental Sciences and Archaeology. (Same as Anthropology M175C.) Lecture, three hours; reading period, one hour. Prerequisites: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radiocarbon damage methods, biological dating techniques, and magnetic dating, and applications in environmental sciences, archaeology and physical anthropology.

Mr. Berger

GROUP IV: REGIONS

180. North America. Lecture, four hours. 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. Nelson

181. Middle America. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Middle America and of the contemporary economic and cultural geography of Mexico and the countries of Central America and the West Indies.

Mr. Bennett, Mr. Bruman

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. Bruman

182B. Brazil. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Portuguese South America and of the contemporary economic and cultural geography of Brazil.

Mr. Bruman

183. Europe. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of geographic conditions and their relation to economic, social and political problems in Europe.

Mr. Kostanick, Mr. Thrower

184. Soviet Union. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A systematic analysis of the geographic conditions and their relation to economic, social, and political problems in the Soviet Union.

Mr. Kostanick

185. South and South East Asia. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A regional synthesis with varying emphases upon the people of South or Southeast Asia in their physical, biotic, and cultural environment and its dynamic processes. Consult deadlines and text for term emphasis.

The Staff

186. Contemporary China. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A systematic analysis of the cultural, economic, and political geography of the area extending from India to Morocco and from Turkey to Sudan. Emphasis on geographical themes and problems during historical and modern times.

Mr. Hare, Mr. Thomas

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 the Sahara, the Sudan belt, and the eastern horn. Emphasis on geographical themes and problems during historical and modern times.

Mr. Hare, Mr. Thomas

188. Northern Africa. Lecture, four hours. Prerequisites: courses 1, 3, or equivalent, or upper division standing. The regions of Africa south of the Sahara (middle and south Africa) in terms of physical features, human settlement, economic production, and political patterns.

Mr. Thomas

189. Middle and Southern Africa. Lecture, four hours. 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. Lecture, four hours. 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

UNGROUPIED

196. Senior Thesis in Ecosystems Analysis. Study schedule to be arranged individually. Prerequisites: courses 116 or 163, and a minimum of fifty hours of research and data collection and analysis for a senior thesis under the guidance and assistance of a faculty sponsor.

The Staff

199. Special Study. (4 to 2 courses) Study schedule to be arranged individually with the instructor. Prerequisites: senior standing and consent of instructor.

The Staff

199HA-199HB. Honors in Geography: I & II. Study schedule to be arranged individually with instructors. Prerequisites: to be eligible a student must have completed at least five (5) upper division courses in geography, have attained a 3.5 GPA for such work, and have a 325 overall GPA. 199HA

NOTE: For key to symbols, see page 74
will be an independent study course taught by a team of two faculty members who will assist an enrolled student with bibliographic research and/or field research into a topic of mutual interest to the student and the faculty members. Successful completion of 199HA will entail the preparation of a detailed bibliography and outline for the writing of a substantial paper during the course of 199HB. The two faculty members will evaluate the bibliographic and/or field preparation of the student in 199HA. If that work is determined to be A, the student will be allowed to continue in the program, that work in 199HA repeated credit will be awarded to the student, but he or she will not be permitted to continue in the Honor's program. 199HB will be devoted to the writing of the substantial paper researched and outlined in 199HA. Two faculty members will evaluate the paper. If the paper is determined to be A, the student will graduate with Honors in Geography. If the paper is determined to be B or lower, credit will be given the student, but there will be no Honors.

Graduate Courses

GROUP I: THE ENVIRONMENT

202. Advanced Geomorphology. (Formerly numbered 212) Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: course 112, 117, or equivalent, or consent of instructor. A survey of geography from classical times onward, with emphasis on the professionalization of geography in Europe and North America from 1870 to present. Mr. Dunbar

204-A. Advanced Climatology. Lecture, three hours; laboratory, one hour. Prerequisites: Course 104, first year of calculus, acquaintance with FORTRAN IV, or consent of instructor. Course meets once weekly. An introduction to the tools and concepts of environmental physics of relevance to natural and man-made landscapes. Such basic intellectual, mathematical, and computer programming tools are of special concern to physical geographers, ecologists, and architects. Mr. Terjung

205. Seminar: Climatology. (Formerly numbered 213) Discussion, three hours; reading period, one hour. Prerequisites: course 204 or equivalent and consent of instructor. Selected topics. May be repeated for credit. Mr. Terjung

208. Advanced Biogeography: Plants. (Formerly numbered 262) Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 112, 117, or equivalent, or consent of instructor. An intensive review and analysis of biophysical and cultural factors influencing animal distributions. Mr. Bennett, Mr. Walter

213. Seminar: Biogeography. (Formerly numbered 265) Discussion, three hours, reading period, two hours. Prerequisites: courses 208, 212 or equivalent and consent of instructor. Research projects related to or growing out of course 208 or 212. May be repeated for credit. The Staff

215. Seminar: Quaternary Studies. (Formerly numbered 216) Discussion, three hours; reading period, two hours. Prerequisites: courses 202 or 204 or 212; or appropriate graduate course in anthropology, botany, earth and space sciences, or zoology; or consent of instructor. An analysis of the changing environment of the Quaternary Period. May be repeated for credit. Mr. Orme

218. Advanced Medical Geography. Lecture, two hours; discussion, one hour, reading period, one hour. Prerequisites: course 118 or consent of instructor. An in-depth study of selected topics in medical geography and an intense review of recent research. Mr. Bennett

222. Seminar: Humid Tropics. (Formerly numbered 292) Discussion, three hours; reading period, two hours. Prerequisites: consent of instructor. Selected topics. Biophysical and cultural complexes of the humid tropics with emphasis on problems related to human settlement and livelihood. May be repeated for credit. Mr. Bennett

227. Water Quality Management. Discussion, three hours; reading period, one hour. Prerequisite: graduate status. Discussion of the basic technical, regional planning and public policy issues in water quality management. Mr. Westman

GROUP II: HUMAN GEOGRAPHY

232. Advanced Cultural Geography. (Formerly numbered 220) Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: course 132, or 133 or equivalent, or consent of instructor. Lectures and discussions around specific aspects of the development of cultural landscape in different geographic environments. Mr. Hale, Mr. Salter

233. Seminar: Cultural Geography. (Formerly numbered 225) Discussion, three hours; reading period, two hours. Prerequisites: course 232, 236, or equivalent and consent of instructor. Discussion centered around particular topics in cultural geography; topics may vary from year to year. May be repeated for credit. The Staff

236. Advanced Historical Geography of the United States. (Formerly numbered 222) Lecture, two hours; discussion, one hour, reading period, one hour. Prerequisites: course 136 and consent of instructor. Some major themes in American historical geography. Mr. Dunbar

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

240. Advanced Political Geography. Lecture, two hours; discussion, one hour, reading period, one hour. Prerequisites: 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 special examples of differing techniques and approaches to political geography. Mr. Kostanick

241. Seminar: Political Geography. (Formerly numbered 245) Discussion, three hours; reading period, two hours. Prerequisites: course 240 or equivalent and consent of instructor. Related research projects growing out of course 240. May be repeated for credit. Mr. Kostanick

242. Advanced Population Geography. Lecture, three hours; reading period, one hour. Prerequisites: course 142 or equivalent, or consent of instructor. Methods of locational analysis as applied to problems of regional growth and development. Mr. Huff

249. Seminar: Economic Geography. (Formerly numbered 225) Discussion, three hours, reading period, two hours. Prerequisites: course 248 or equivalent, and consent of instructor. Related research projects growing out of course 248. May be repeated for credit. The Staff

250. Urban Systems. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 145 and 146 or consent of instructor. A general study of the hierarchy of urban places including diffusion within the urban hierarchy, theories to account for the location and size distribution of cities. Mr. W. Clark, Mr. Huff

251. Seminar: Urban Geography. (Formerly numbered 255) Discussion, three hours; reading period, two hours. Prerequisites: course 250 or equivalent, and consent of instructor. Related research projects growing out of course 250. May be repeated for credit. The Staff

252. Location and Social Structure Within the City. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 145 and 146 or consent of instructor. A study of the links between urban and rural spatial structure emphasizing urban residential land use, social areas of the city, and accessibility and urban form. Mr. Entringer

254. Migration and Residential Mobility. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: consent of instructor. The description and modeling of national, regional and intraurban migration. Mr. W. Clark, Mr. Huff

GROUP III: PROCEDURES

260. Advanced Field Analysis: Physical Elements. (2 courses) Class meets once a week from 8-5. Prerequisite: one or more of courses 233, 234, 236, 237, 252, 253, 254, 255, 257, 258, 265, 270, 275, 276. Field methods and analysis applied to the physical environment, especially in southern California and with particular reference to various aspects of geomorphology, hydrology, climatology, and associated human activities. Mr. Trimmer

261. Advanced Field Analysis: Cultural Geography. (2 courses) Class meets once weekly from 8-5, mainly in the field. Prerequisites: one or more courses from 232, 233, 250, 251. Field methods and analysis applied to the cultural landscape, especially in southern California and particular reference to settlement, agriculture, and environmental modification. Mr. Salter

262. Advanced Field Analysis: Biogeography. (2 courses) Field, ten hours per week. Prerequisite: consent of instructor. Presentation, 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. The Staff

265. Geographical Bibliography. (Formerly numbered 201) 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 techniques, methods, and applications. Intended for beginning graduate students. Mr. Dunbar

267. Advanced Cartography. (Formerly numbered 272) Laboratory, three hours; independent work, two hours. Prerequisites: course 167 or equivalent,
or consent of instructor. Advanced work in the theory and practical application of modern cartographic principles. Special emphasis is placed on terrain representation, quantitative and computer mapping, scribbling, color separation, and reproduction of maps. Mr. Thrower

269. Remote Sensing of Environment. (Formerly numbered 274.) Laboratory, three hours: independent work, two hours. Prerequisites: course 167 or equivalent or consent of instructor. The development of aerial photographs and other remote sensing images as tools for geological research. Particular attention is placed on the analysis of landscapes and the interpretation of interrelationships of individual features in their physical and cultural complex. Mr. Thrower

M270. Advanced Quantitative Analysis. (Formerly numbered M276; same as Architecture and Urban Planning M215A.) Lecture, two hours; laboratory, two hours. Prerequisites: course 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 applied to geographic data bases. Mr. W. Clark

M272. Spatial Statistics. (Formerly numbered M277; same as Architecture and Urban Planning M215B.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: Mathematics 508 or course 171 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. Huff

273. Seminar: Model Building for Spatial Analysis. (Formerly numbered 279.) Discussion, three hours. Prerequisites: course M270 or consent of instructor. Discussions of the philosophy and methodology of model building. The focus will be on the problems unique to models of spatial structure. Individual research topics will be emphasized. May be repeated for credit. Mr. W. Clark, Mr. Huff

M278. Seminar: Dating Techniques in Environmental Sciences and Archaeology. (Formerly numbered M271; same as Anthropology 214I.) Discussion, three hours. Prerequisite: consent of instructor. A colloquium devoted to topics in dating techniques in environmental sciences, paleontological, and physical anthropology as well as laboratory instruction and experimental work. May be repeated for credit. Mr. Berger

GROUP IV: SEMINARS IN REGIONAL GEOGRAPHY

280-291. Selected topics for each seminar. Each may be repeated for credit. Lecture: two hours; discussion: two hours.

280. North America. (Formerly numbered 290A.) Prerequisite: course 180 or consent of instructor. Mr. McKnight, Mr. Nelson

281. Middle America. (Formerly numbered 290B.) Prerequisite: course 181 and consent of instructor. Mr. Bennett, Mr. Bruman

282. South America. (Formerly numbered 290C.) Prerequisite: course 182 and consent of instructor. Mr. Bennett, Mr. Bruman

283. Europe. (Formerly numbered 290D.) Prerequisite: course 183 and consent of instructor. Mr. McKnight, Mr. McKnight

284. Soviet Union. (Formerly numbered 290E.) Prerequisites: courses 184 and consent of instructor. Mr. Kostanick

285. South and South East Asia. (Formerly numbered 290F.) Prerequisite: course 185 and consent of instructor. The Staff

286. Eastern Asia. (Formerly numbered 290G.) Prerequisites: course 186 and consent of instructor. Mr. Salter

287. Middle East. (Formerly numbered 290H.) Prerequisites: course 187 and consent of instructor. Mr. Hall

288. Northern Africa. (Formerly numbered 290I.) Prerequisites: course 188 and consent of instructor. Mr. Hale, Mr. Thomas

289. Middle and Southern Africa. (Formerly numbered 290J.) Prerequisites: course 189 and consent of instructor. Mr. Thorton

290. Australasia. (Formerly numbered 290K.) Prerequisites: course 190 and consent of instructor. Mr. McKnight

291. The Arid Lands. Prerequisites: courses 102, 104, 106, 108, 116, 120, 148, or equivalent and consent of instructor. An investigation of the physical and cultural complexes of the world's arid regions. Salient factors emphasized include climate, landforms, water, soils, natural vegetation and the various aspects of human occupancy, including future possibilities for human utilization. The Staff

292. Advanced Regional Geography: Selected Regions. Lecture, three hours; discussion, one hour. Prerequisites: appropriate upper division regional course. A lecture series devoted to a specific region at the discretion of the instructor. May be repeated for credit. The Staff

295. Seminar: Geographic Thought. Discussion, three hours; reading period, two hours. Prerequisites: graduate standing, consent of instructor. Discussion and study of topics significant to the growth of modern philosophy of geography. Mr. Entringk

495. Teaching of College Geography. (4 course) Discussion, one hour; laboratory, three hours. Prerequisite: consent of instructor. Classroom practice in teaching, with individual and group instruction on related educational methods, materials, and evaluation. May be repeated for credit. Mr. McKnight

GROUP V: INDIVIDUAL STUDY AND RESEARCH

596. Directed Individual Study or Research. (4 to 2 courses) Prerequisite: consent of the instructor. (Department Office, 3806 Geology Building)

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination. (4 to 2 courses) Special individual study. Prerequisite: consent of the instructor. The Staff

598. Research for and Preparation of the Master's Thesis. (4 to 2 courses) Independent study. Prerequisite: consent of the instructor. The Staff

599. Research for and Preparation of the Doctoral Dissertation. (4 to 2 courses) Independent study. Prerequisite: consent of the instructor. The Staff

GEOPHYSICS AND PLANETARY PHYSICS (Institute Office, 3871 Slichter Hall)

John P. McTague, Ph.D., Professor of Chemistry.

J. William Schopf, Ph.D., Professor of Geology and Geophysics.

R.B. Bennett, Ph.D., Professor of Geochemistry.

John T. Wasson, Ph.D., Professor of Geophysics and Geochronology.

Robert E. Holzer, Ph.D., Emeritus Professor of Geophysics.

Willard F. Libby, Ph.D., Emeritus Professor of Chemistry.

Jonathan L. Katz, Ph.D., Associate Professor of Astronomy.

The Institute of Geophysics and Planetary Physics was established to encourage fundamental research in geophysics, geochronology, and space physics and to provide graduate instruction for qualified students. Members of the staff and associated departments are prepared to supervise graduate work in a variety of fields: atmospheric physics, physics of the ionosphere, belts, interplanetary space physics, geophysical fluid dynamics, high pressure physics, tectonophysics, geochronology, nuclear geophysics, age determination, gravitation, physical and geophysical exploration geophysics, seismology, physics of the deep interior, and exploration geophysics. The bachelor's degree may be in any field; however, a thorough undergraduate preparation in one or more of the basic sciences, mathematics or chemistry is expected of students pursuing graduate research. The student who elects to pursue research in atmospheric sciences, geophysics, geochronology or space physics must apply by enrolling in one of the following departments: earth and space sciences, physics, mathematics, astronomy, chemistry. An individual program of instruction will be worked out for each student, since the requirements for the M.S. or Ph.D. degree are not the same for all students. For further information, contact the Institute of Geophysics and Planetary Physics.

Undergraduate Study

Undergraduate students with an interest in graduate study in Geophysics are advised to complete a major in physics, mathematics or chemistry. Attention is also drawn to opportunities to complete an undergraduate course of studies in Geophysics and Space Physics and in Applied Geophysics. For information concerning these programs consult the catalog listings for the Department of Earth and Space Sciences.

Upper Division Courses

M130. Isotope Geochemistry. Same as Earth and Space Sciences M130.) Lecture, three hours; discussions, four hours. Prerequisites: course 110. Prerequisites: upper division standing in physical or biological sciences and consent of instructor. Theoretical aspects of geochronology, particularly Carbon-14 dating. Application of radiocarbon and other geophysical techniques of exploration geophysics. The bachelor's degree may be in any field; however, a thorough undergraduate preparation in one or more of the basic sciences, mathematics or chemistry is expected of students pursuing graduate research. The student who elects to pursue research in atmospheric sciences, geophysics, geochronology or space physics must apply by enrolling in one of the following departments: earth and space sciences, physics, mathematics, astronomy, chemistry. An individual program of instruction will be worked out for each student, since the requirements for the M.S. or Ph.D. degree are not the same for all students. For further information, contact the Institute of Geophysics and Planetary Physics.

M136A. Geophysical Exploration. (Same as Earth and Space Sciences M136A.) Lecture, three hours; discussion, one hour. Prerequisites: junior or senior standing in chemistry, physics, or geology, or consent of instructor. Origin and ablation of cosmic dust in the earth, oceans, and atmosphere; chemistry of the earth's interior, phase transformations at high pressure and temperature. Alternates yearly with Geology and Geophysics course M130. Mr. Wasson

M136B. Geophysical Exploration. (Same as Earth and Space Sciences M136B.) Prerequisite: Physics 6ABC, or Physics 31C. The bachelor's degree may be in any field; however, a thorough undergraduate preparation in one or more of the basic sciences, mathematics or chemistry is expected of students pursuing graduate research. The student who elects to pursue research in atmospheric sciences, geophysics, geochronology or space physics must apply by enrolling in one of the following departments: earth and space sciences, physics, mathematics, astronomy, chemistry. An individual program of instruction will be worked out for each student, since the requirements for the M.S. or Ph.D. degree are not the same for all students. For further information, contact the Institute of Geophysics and Planetary Physics.

NOTE: For key to symbols, see page 74
GEOPHYSICS AND SPACE PHYSICS
(Renamed to Earth and Space Sciences.)

**Graduate Courses**

249. Experimental Petrology. Prerequisite: consent of the instructor. Mr. Kennedy

260. Experimental Geology. (4 to 1/2 courses) Seminar, two hours; laboratory, optional. Prerequisite: consent of the instructor. The mechanics of rock deformation. Dimensional analysis and model theory applied to geological problems.

M282. Seminar in Geophysics. (Same as Earth and Space Sciences M282) Prerequisite: consent of the instructor. Seismology, geophysical prospecting, electromagnetic prospecting. Selected topics in earth physics. The content will vary from year to year. May be repeated for credit.

**Individual Study and Research**

596. Directed Individual Study or Research in Geophysics. (4 to 1/2 courses) Prerequisite: consent of the instructor. Directed individual study or research in theoretical and experimental studies related to seismology and geophysics of the earth's interior (Mr. Knopoff); gravity; space; plasma physics (Mr. Holzer); space and astrophysical magnetism (Mr. Kennel); mineral physics; elastic properties and shear moduli of rocks and rock-forming materials (Mr. Anderson); vulcanology; physics of high pressure, phase equilibria in geologically important chemical systems (Mr. Kennedy); radioactive dating and nuclear geophysics (Mr. Libby); orbital dynamics and planetary interiors (Mr. Kaula); geophysical fluid dynamics (Mr. Busse). The Staff

596A. Directed Individual Study or Research in Geochemistry. (4 to 1/2 courses) Prerequisite: consent of the instructor. Cosmic chemistry; trace element abundances in meteorites, natural radioactivity (Mr. Wasson); radiocarbon dating, tritium hydrology and water and moisture circulation, radioactive fallout circulation and precipitation and assimilation into the biosphere, high pressure chemistry particularly as applied to planetary interiors, chemistry of ionizing radiation, particularly as applied to planetary atmospheres (Mr. Libby); experimental investigation of phase equilibria at high temperatures and pressures with emphasis on geochemically important systems (Mr. Kennedy); experimental and theoretical investigation of phase equilibria relations involving silicate melts with emphasis on MORB compositions (Mr. Ernst); sedimentary geochemistry, geochemistry of stable isotopes, geological microbiology, origin and diagnosis of marine and nonmarine sediments, chemical history of the Earth (Mr. Libby); syntheses and reactions in extraterrestrial and biochemistry of early evolutionary processes (Mr. Kaplan).

597A. Preparation for the Comprehensive Examination for the Master's Degree or the Qualifying Examination for the Ph.D. (4 to 1/2 courses) For course content and staff see course 596.

597B. Preparation for the Comprehensive Examination for the Master's Degree or the Qualifying Examination for the Ph.D. (4 to 1/2 courses) For course content and staff see course 596A.

598. Research and Preparation of the Master's Thesis in Geochemistry. (4 to 1/2 courses) For course content and staff see course 596A.

599A. Research and Preparation of the Doctoral Dissertation. (4 to 1/2 courses) For course content and staff see course 596A.

599B. Research and Preparation of the Doctoral Dissertation in Geophysics. (4 to 1/2 courses) For course content and staff see course 596A.

**GERMANIC LANGUAGES**

(Department Office, 310 Royce Hall)

Ehrhard Bahr, Ph.D., Professor of German
Bertram H. Baum, Ph.D., Professor of German
Wolfgang Nebel, Ph.D., Professor of German
Eli Sobel, Ph.D., Professor of German
Hans Wagen, Ph.D., Professor of German (Chairman of the Language Section)
Donald J. Ward, Ph.D., Professor of German and Folklore
Teresa H. Willits, Ph.D., Professor of Germanic Linguistics and Philology
Gustavo Otto Arlt, Ph.D., LL.D., Emeritus Professor of German
Caral William Hagge, Ph.D., Emeritus Professor of German
Wayland D. Hand, Ph.D., Emeritus Professor of German and Folklore
William J. Mulloy, Ph.D., Emeritus Professor of German
Victor A. Oswald, Jr., Ph.D., Emeritus Professor of German
Verne W. Kellogg, Emeritus Professor of German
Erik Wahlgren, Ph.D., Emeritus Professor of Scandinavian and Germanic Languages
Alexander Stephan, Ph.D., Associate Professor of German
Janet K. Hadda, Ph.D., Assistant Professor of Yiddish
Dieter Jedan, Ph.D., Assistant Professor of German
Robert S. Kromer, Ph.D., Assistant Professor of Dutch and Afrikaans
Kathleen Kumar, Ph.D., Assistant Professor of German and Comparative Literature
Laurence G. Lyon, Ph.D., Assistant Professor of German
Mac Donald Stearns, Jr., Ph.D., Assistant Professor of German
Mariana D. Bimbam, Ph.D., Adjunct Associate Professor of Hungarian
Stefanie Lombardi, Ph.D., Lecturer in German

**Preparation for the Major in German**

Required courses 1, 2, 3, 4, 5, 6, or their equivalents

The Major in German

Fifteen upper division courses offered by the department are required for the major in German: 100A or 100B, 108A, 108B, 129; four courses chosen from among 100A or 100B (whichever was not taken to satisfy the first listed requirement), 101A, 101B, 101C, 121H, 124, 134; three courses chosen from among 103, 105, 106, 107, 117; four courses chosen from among 121I, 122, 123, 124, 126, 130, 132.

German undergraduate majors with secondary interests in other fields such as Folklore, History, Linguistics, Music, Philosophy, and Theater Arts, may arrange to pursue studies in those areas. Such students should consult with the departmental undergraduate advisors.

**Admission to Graduate Status**

The completion of the undergraduate major, or its equivalent, with a minimum grade point average of 3.0 is required. The undergraduate major must complete it by taking the appropriate courses, as recommended by the departmental graduate advisor. A placement examination in German language and literature may be required of entering graduate students.

**Teaching Credential Requirements**

Students desiring a single-subject teaching credential in German must have the approval of the German Department in order to gain admission to student teaching. For the Single-Subject Credential (this approval is contingent upon a major or the equivalent) in German and the successful completion of German 370, which should be taken prior to student teaching. Under exceptional circumstances, the Department may allow the student to enroll concurrently with a student teaching assignment.

For additional information, consult the Graduate School of Education (Moore Hall 201) and the Department of Germanic Languages (310 Royce Hall).

**Requirements for the Master's Degree**

1. For the general requirements, see Requirements for Graduate Degrees.
2. Application for advancement to candidacy may be made when the student has passed the Graduate Division reading examination in French.
3. A minimum of nine upper division and graduate course level courses of which at least five courses must be graduate level (200 or 500 series), plus a comprehensive examination and additional course requirements described under items 5 and 6 below. When appropriate, the comprehensive examination will be conducted orally.
4. A student who is accepted on the thesis plan for the M.A. must, after completing the thesis, pass a two-hour examination which will be (a) a comprehensive examination and (b) an examination in the field of the thesis.
5. For the candidate who expects to terminate his studies with an M.A. degree and teaching credential (Plan A) in addition to the minimum of nine upper division and graduate courses mentioned above, item 3 requires 120 and 129 (or their equivalent) and 370 are specifically required. No seminar is required. A comprehensive examination is required on (a) the origin and development of the standard German language, (b) contemporary standards of the German language, and (c) major works and authors from earliest times to the present.
6. For the candidates who wish to become literate in and linguistically astute in the Germanic philology who intend to proceed toward the Ph.D. (Plan B): at least 9 upper division and graduate courses, of which 6 must be of graduate level; one seminar must be included. A comprehensive examination is required on (a) a basic knowledge of bibliography, (b) a reading knowledge of Middle High German, (c) the origin and development of the German language, and (d) major works and authors from the earliest times to the present.

**Requirements for the Candidate in Philosophy Degree**

The Candidate in Philosophy Degree will be awarded upon request after formal advancement to candidacy, i.e., when the candidate has passed the graduate foreign language reading requirement and the written and oral examinations as prescribed in Requirements for the Doctor's Degree paragraphs 3 and 4.

**Requirements for the Doctor's Degree**

1. For the general requirements, see Candidate in Philosophy Degree.
2. A student entering this department with an M.A. from an accredited institution in the United States or with a Staatsexamen in German will be admitted to our Ph.D. program without further examination. The graduate advisor will assure that the student makes up any major deficiencies either by taking the comprehensive examination or by completing the content of these courses by examination. Students with an M.A. in a field other than German, including Linguistics, will have to take the written parts of our M.A. Exam to be required to choose one additional field which will comprise the subject matter of their qualifying examinations in the
minor field. This area may be chosen from the following eight fields: 1. German Literature before 1600, 2. German Literature from 1600 through Romanticism, 3. German Literature from Romanticism to the Present, 4. Germanic Philology and Linguistics, 5. Scandinavian Literature and Philology, 6. Germanic Folklore, 7. Yiddish, or 8. Dutch-Flemish-Afrikaans. Candidates who choose German literature as their course minor will be required to take four graduate courses (excluding German 217 and all pre-M.A. language courses) in one of the other fields in which the degree is offered or four appropriate English courses in Yiddish or Dutch-Flemish-Afrikaans. Candidates who choose a minor in Scandinavian literature may, instead of options (a) and (b), choose the following course minor; in addition to their major field of specialization, students are required to take four graduate courses (excluding German 217 and all pre-M.A. language courses) in one of the other fields in which the degree is offered or four appropriate English courses in Yiddish or Dutch-Flemish-Afrikaans. Students who have taken previous course 100 may receive credit toward completion of the major in German. Mr. Bahr, Mr. Lyon

121F. Modern German Literature in Translation—Narrative Prose II. Readings, lectures and discussions in English on selected 19th century authors. No credit toward completion of the major in German. Mr. Stepharn, Mr. Wagener

121G. Modern German Literature in Translation—Drama and Lyric Poetry. Readings, lectures and discussions in English on selected modern authors, including Mann, Kafka, Hesse and Rilke. No credit toward completion of the major in German. Mr. Nehring, Mr. Stepharn, Mr. Wagener

121H. Modern German Literature in Translation—European Literature and intellectual history, from modern literature as well as from older 1

121I. The Faust Tradition from the Renaissance to the Modern Age. Readings and discussions in English of the Faust theme and Faust tradition in European Literature and intellectual history, including the chapbooks 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 Lezersdn. No credit toward completion of the major in German. Mr. Bahr, Mr. Lyon

NOTE: For key to symbols, see page 74
Courses open to Graduate Students in German

121H. Special Problems in Literature. Prerequisite: upper division standing in any department. Varying topics of current importance and immediate relevance to literary study. The course is designed to introduce the student to contemporary works in literary study and is predominantly concerned with topics related to German literature and criticism. Lectures in English. The Staff

121i. The German Film in Cultural Context. 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 courses 100 or 100A, or consent of the instructor. Readings and analysis of major works from the Middle Ages to the Baroque. The Staff

123. Goethe. Prerequisites: courses 100A or 100B, and 103 or consent of instructor. Reading and discussion of representative works (except Faust) from Goethe’s early period to his maturity and old age.

Mr. Mr. Bahr, Mr. Lyon

124. Romanticism. Prerequisites: courses 100A or 100B, 105, or consent of the instructor. Reading and analysis of major works of the Romantic period. Authors included are Tieck, Novalis, E.T.A. Hoffmann, and Eichendorff.

Ms. Komar, Mr. Nehring

126. Advanced Study in Modern Literature. Prerequisites: courses 100A or 100B, 106, or consent of the instructor. Reading and analysis of a wide range of the literature from 1890-1945.

Mr. Wagener

127. Advanced Study in Contemporary Literature. Prerequisites: courses 100A or 100B, 107, or consent of the instructor. Analysis of a wide range of German literature from 1945 to the present.

Mr. Stephan

128. Advanced Composition, Grammar and Conversation. Prerequisites: course 108A and/or consent of the instructor. Grammar, composition, conversation.

Ms. Lombardi

129. German Phonetics. Study of the articulatory basis of the sounds of German and practice in standard pronunciation.

Mr. Stearns

130. Methodology of Literary Criticism. Prerequisites: senior standing or consent of the instructor. Introduction to the methodology of literary criticism, including a systematic study of motif, topos, plot, space and time, semantics, stylistics, rhetoric, metaphor, memory, symbol, structural elements (act, stanza, book), flash-back, anticipation, interior monologue, narrator and reader’s response, humor and irony, hermeneutics.

Mr. Bahr, Mr. Bauml, Mr. Lyon

132. Goethe’s Faust. Prerequisites: courses 100A or 100B, 123, or consent of the instructor. Detailed interpretation of Goethe’s Faust, Parts I and II, together with more general consideration of other treatments of the Faust theme in European literature.

Mr. Bahr, Mr. Lyon

134. German Folklore. A survey of various genres of German folklore.

Mr. Ward

199A-199ZZ. Special Studies. (5 to 1 course) Prerequisite: consent of the instructor. To be arranged with the member of the faculty who will direct the study. The member of the faculty directing the study will be identified by the same two-letter code used to identify his 599 research course. 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.

The Staff

Graduate Courses

201A. Bibliography of German Literary History. Study of the various kinds of bibliographies, handbooks, lexica, series publications, journals, literary histories, and other reference works.

Mr. Sobel

201C. Theories of Literary Criticism. Foundations of literary criticism and current theories.

Mr. Bahr, Mr. Bauml

202A. Middle High German. Introduction to the Middle High German language.

Mr. Bahr, Mr. Bauml

202B. Readings in Middle High German Literature. Rhins from Middle High German courtly literature.

Mr. Baur, Mr. Ward


Mr. Baur

203B. The Courtly Lyric. Analysis of lyric poetry from Der von Kurenberg to Die schwarze Hallein.

Mr. Baur, Mr. Ward

203C. The Heroic Epic. Analysis and methods of interpretation of heroic poetry from the Hildebrandslied to Kudrun. Mr. Baur, Mr. Ward

204. Renaissance and Reformation Literature. German literature of the 15th and 16th centuries, including introduction to the Early New High German language.

Mr. Sobel


Mr. Sobel, Mr. Wagener

206A. Enlightenment and Sentimentalism. Representative authors of the late 18th century from Gotthold Lessing to Johann Gottfried Herder.

Mr. Bahr, Mr. Lyon

206B. Sturm und Drang. Representative authors of the Sturm und Drang including the young Goethe and Schiller.

Mr. Bahr, Mr. Lyon

207A. Classicism: Goethe. Selected topics in the works of Goethe in the period 1776-1832.

Mr. Bahr

207B. Classicism: Schiller. Selected topics in the dramatic and critical works of Schiller in the period 1793-1805.

Mr. Bahr


Ms. Komar, Mr. Nehring


Ms. Komar, Mr. Nehring


Ms. Komar, Mr. Nehring

209C. 19th Century Narrative Prose. Analysis of works of postromantic, prenaturalistic narrative prose (e.g., works of Mr. Nehring).

210A. Naturalism and Symbolism. Poetry, drama, and shorter narratives of the period 1890-1945.

Mr. Wagener

210B. Expressionism and Neorealism. Poetry, drama, and shorter narratives of the period 1910-1933.

Mr. Stephan, Mr. Wagener

210C. 20th Century Novel to 1945. Analysis of selected novels written prior to 1945.

Ms. Komar, Mr. Wagener

211A. Contemporary Novel. Analysis of selected novels of the period from 1945 to the present.

Mr. Stephan

211B. Contemporary Lyrics and Drama. Poetry and shorter narratives of the period 1945 to the present.

Mr. Stephan

217. History of the German Language. 

Mr. Stearns, Mr. Wilbur

230. Survey of Germanic Philology. Mr. Wilbur

231. Gothic. Mr. Stearns, Mr. Wilbur

232. Old High German. Mr. Stearns, Mr. Wilbur

233. Old Saxon. Mr. Stearns, Mr. Wilbur

240A. Theories, Methods, and History of German Folklore. Historical survey of folklore theory in the Germanic countries and a study of modern folklore methodology, bibliography, and status of studies.

Mr. Ward

240B. Folk Song and Ballad. Survey of German folk song and ballad, as to historical development, relation to other literary genres, ethnic background, and poetic and musical values.

Mr. Ward

240C. Oral Prose Genres. Legends, folk tales, jests, riddles; their history, function, and poetic values.

Mr. Ward

M245A. Germanic Religions and Mythology. (Same as Scandinavian M245.) The Staff

245B. Germanic Antiquities. Prehistory and early history of Germanic culture; a philological investigation of Germanic ethnography, customs, behavior and law.

Mr. Ward

251. Seminar in Syntax and Phonology of German. The syntactical and phonological structure of the German language according to the principles of generative grammar and other techniques.

Mr. Wilbur

252. Seminar in Historical and Comparative German Linguistics. The historical development of the Germanic languages according to the principles and techniques of comparative linguistics.

Mr. Wilbur

253. Seminar in Medieval Literature.

Mr. Bahr, Mr. Ward

254. Seminar in Renaissance and Reformation.

Mr. Sobel

255. Seminar in Baroque Literature.

Mr. Sobel, Mr. Wagener

256. Seminar in Enlightenment and Sturm und Drang.

Mr. Bahr, Mr. Lyon

257. Seminar in the Age of Goethe.

Mr. Bahr

258. Seminar in Romanticism.

Ms. Komar, Mr. Nehring

259. Seminar in 19th Century Literature.

Ms. Komar, Mr. Nehring


Mr. Bahr, Mr. Nehring, Mr. Wilbur

261. Seminar in Contemporary Literature.

Mr. Stephan

262. Seminar in Germanic Folklore.

Mr. Ward

263. Seminar in Theories of Literature. Seminar specializing in specific literary theories, such as aesthetics of reception, Neo-Marxist Criticism, New Criticism, psychology of literature, semiotics, sociology of literature, structuralism.

Mr. Bahr, Mr. Bauml

Professional Courses in Teaching Methods

370. The Teaching of German in Secondary Schools. Lecture, three hours per week and discussion periods. Prerequisite: graduate standing or consent of the instructor. Required of all candidates for the general secondary credential in German.

Ms. Lombardi

495A-495B. Preparation for College Teaching of German. (5 course each) Two-quarter sequence. Study of problems and methods in teaching German on the college level. Theory and classroom practice, observation and critical evaluation. Credit only on completion of 495B. May not be used to fulfill any of the course requirements for the Master’s Degree. This course is offered on an In-Progress basis, which requires students to complete the full 2-quarter sequence at the end of which time a grade is given for all quarters of work. Satisfactory- Unsatisfactory grading.

Ms. Jedan

Individual Study and Research

596A-596ZZ. Directed Individual Study or Research. To be arranged with the member of the faculty who will direct the study or research. The member of the faculty directing the study will be identified by a two-letter code using the initials of the sponsoring instructor (see department for code). To be graded on Satisfactory-Unsatisfactory basis. May be taken twice. Only one course in the 500 series may count toward the M.A. requirement.

The Staff
Hungarian grammar and reading exercises, emphasis on the course identified by a two-letter code using his initials. The Staff

Each faculty member has his own doctoral research member of the faculty who will direct the study. The Staff. (Formerly numbered 153A-153B.) Prerequisite: course 101C or the equivalent. Large selections of Hungarian prose and poetry read in the original. Discussion will be conducted in Hungarian.

120A-120B. Readings in Hungarian. (Formerly numbered Finno-Ugric 153A-153B.) Prerequisite: course 101A or equivalent. Readings in Hungarian grammar from a typological point of view. Ms. Birnbaum

120C. Readings in Hungarian Literature. Prerequisite: reading knowledge in Hungarian. Course 101C or the equivalent. Large selections of Hungarian prose and poetry read in the original. Ms. Birnbaum

121A-121B. Survey of Hungarian Literature in Translation. (Formerly numbered 158A-158B.) Prerequisite: consent of the instructor. Designed for students in general and comparative literature as well as students interested in Finno-Ugric studies. Main trends and contacts with other literatures are surveyed. Ms. Birnbaum

M135. Hungarian Folklore and Mythology. (Same as Folklore M125.) A general course for the student in folklore and mythology, with emphasis on types of folklore and varieties of folklore research.

130. Hungarian Civilization and Culture. A study of Hungarian civilization and institutions from the earliest times to the present. Study of Hungarian culture as represented in its literature, fine arts, music. Ms. Birnbaum

M136. Folklore and Mythology of the Ugric Peoples. (Same as Folklore M129.) Survey of the traditions of the smaller Ugric nationalities (Voguls, Ostyaks, etc.) Ms. Birnbaum. Ms. Hadda

199. Special Studies in Hungarian. (6 to 1 course) Prerequisite: consent of the instructor. A course of independent study for students who desire more intensive or specialized investigation of material covered in a regular course, and who present such a course as a prerequisite. Ms. Birnbaum, Ms. Hadda

212A-212B. Survey of Hungarian Literature in Translation. (Formerly numbered Finno-Ugric 158A-158B.) Prerequisite: consent of the instructor. Designed for students in general and comparative literature as well as students interested in Finno-Ugric studies. Main trends and contacts with other literatures are surveyed. Ms. Birnbaum

Yiddish

1. Elementary Yiddish. Lecture, five hours per week. Introduction to grammar; instruction in listening, speaking, reading and writing skills. Ms. Hadda

2. Elementary Yiddish. Lecture, five hours per week. Prerequisite: course 1 or equivalent. Ms. Hadda

3. Elementary Yiddish. Lecture, five hours per week. Prerequisite: course 2 or equivalent. Ms. Hadda

104. Intermediate Yiddish. Lecture, five hours per week. Prerequisite: course 3 or equivalent. Grammatical exercises, reading and linguistic analysis of texts, conversation. Ms. Hadda

121A. 20th Century Yiddish Poetry in English Translation. Prerequisite: upper division standing or consent of the instructor. Lectures in modern Yiddish prose. Lectures, discussions. Ms. Hadda

121B. 20th Century Yiddish Prose and Drama in English Translation. Prerequisite: upper division standing or consent of the instructor. Readings in modern Yiddish prose and drama. Lectures, discussions. Ms. Hadda

SCANDINAVIAN LANGUAGES

Kenneth G. Chapman, Ph.D., Professor of Scandinavian Languages.

Emil Wathne, Ph.D., Emeritus Professor of Scandinavian and Germanic Languages.

Ross P. Shulder, Ph.D., Associate Professor of Scandinavian Languages and Comparative Literature.

James R. Massengale, Ph.D., Associate Professor of Scandinavian Languages (Visiting Chairman of the Department).

Mary Kay Norweng, Ph.D., Assistant Professor of Scandinavian Languages.

Jesse L. Byock, Ph.D., Assistant Professor of Scandinavian Languages.


Jules L. Zentner, Ph.D., Lecturer in Scandinavian Languages.

Preparation for the Major

Required: courses 1, 2, 3, 4, 5, or 11, 12, 13, 14, 15, or 21, 22, 23, 24, 25, and 30, or their equivalents.

The Undergraduate Major in Scandinavian

Nine upper division courses in Scandinavian, including courses 105 and 106, or 110 for two quarters, and 141, 142, and 143. As an additional requirement, three upper division courses in Scandinavian or a related field must 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.

Admission to Graduate Status

The completion of the undergraduate major, or its equivalent, with a minimum grade point average of 3.0 is required. If the candidate is deficient in the undergraduate major he must complete it by taking the appropriate courses, as recommended by the adviser of the Scandinavian Section. A placement examination in the Scandinavian languages, as well as in German, may be required of entering graduate students.

Requirements for the Master's Degree

1. For the general requirements, see Requirements for Graduate Degrees.

2. Students entering the M.A. program in Scandinavian will be required to have completed an undergraduate major in Scandinavian, or its equivalent.

3. A reading knowledge of either German or French, at the discretion of the department, will be required for the M.A. degree in Scandinavian.

4. A total of twelve courses is required for the M.A. degree. These include a minimum of nine upper division and graduate courses in Scandinavian, of which at least five must be graduate courses.

NOTE: For key to symbols, see page 74
addition, three courses on the upper division or graduate level must be taken in a related field of linguistic or literary study to be determined by consultation with the Graduate Adviser in Scandinavian. At least one of these three courses in a related field must be on the graduate level. Comparative Literature 200 or an equivalent course in literary or linguistic methodology is required as one of these three advanced courses. A knowledge of Old Icelandic is equivalent to courses 151 and 152 will be required of all candidates for the M.A. in Scandinavian.

5. A comprehensive examination will be required of all candidates for the M.A. degree in Scandinavian.

Requirements for the Doctor’s Degree in Scandinavian Languages
A candidate for the Ph.D. in Germanic Languages may choose Scandinavian Literature and Philology as his major or his minor field. For details, see Candidate in Philosophy Degree.

Lower Division Courses
No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition. Prerequisites for lower division courses are listed under the course description. Successful demonstrations of previous knowledge or experience may enable students to be placed in the advanced course. Students with demonstrated proficiency may be permitted a more advanced course in the Department by the official authorization of the instructor.

Admission to Language Courses in the Scandinavian Section
Native speakers of Norwegian, Swedish, or Danish may not enroll in any language course (including courses 105, 106, and 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. These petitions must include a description of the student’s linguistic background and his 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.
3. Elementary Swedish. Prerequisite: course 2 or equivalent.
4. Intermediate Swedish. Prerequisite: course 3 or equivalent.
5. Intermediate Swedish. Prerequisite: course 4 or equivalent.
6. Intermediate Swedish. Prerequisite: course 5 or equivalent.
7. Intermediate Norwegian. The Staff
8. Intermediate Norwegian. Prerequisite: course 9 or equivalent.
9. Intermediate Norwegian. Prerequisite: course 12 or equivalent.
10. Intermediate Norwegian. Prerequisite: course 13 or equivalent.
11. Intermediate Norwegian. Prerequisite: course 14 or equivalent.
12. Intermediate Danish. A first-quarter course in the Danish language. Mr. Massengale
13. Intermediate Danish. Prerequisite: course 21, or equivalent. A second-quarter course in the Danish language.
15. Intermediate Danish. Prerequisite: course 23 or equivalent.
16. Intermediate Danish. Prerequisite: course 24 or equivalent.
17. Intermediate Danish, Norwegian and Swedish. Prerequisite: either courses 5, 15, or 25, or the equivalent. Readings in Danish, Norwegian and Swedish. Written and oral exercises. Majors as well as nonmajors may take this course on a P/NP or S/U basis. The Staff
18. Intermediate Danish, Norwegian and Swedish. Prerequisite: either courses 5, 15, or 25, or the equivalent. Readings in Danish, Norwegian and Swedish. Written and oral exercises. Majors as well as nonmajors may take this course on a P/NP or S/U basis. The Staff
19. Upper Division Courses
20. The Heroic Journey in Northern Myth and Legend. Introductory survey to Norse myth, legend, and epic. Mr. Byock
22. Advanced Swedish. Prerequisite: course 105 or equivalent. Readings, composition, and conversation. Conducted in Swedish. The Staff
23. Intermediate Danish and Norwegian. Prerequisite: course 30 or equivalent. Advanced reading, composition, and conversation in Danish and Norwegian. May be taken twice for credit. The Staff
24. Finnish Folksong 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. Mrs. Rank
25. Finnish Folksong and Ballad. (Same as Folklore M123B.) Course M123A is not prerequisite to M123B. A survey of Finnish balladry and folksong, with attention to historical development, ethnic background, and poetic and musical values. Mrs. Rank
26. Intermediate Finnish. Prerequisite: course 130 or equivalent. Grammatical exercises and readings. Mrs. Rank
27. Advanced Finnish. Prerequisite: course 131 or equivalent. Readings, composition and conversation. Mrs. Rank
28. 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; no knowledge of Finnish is required. Mrs. Rank
29. Viking Civilization and Literature. Readings and discussions of selected works from the Old Icelandic sagas, the Eddas, and early ballad literature. Conducted in English, and no knowledge of a Scandinavian language is required. The Staff
30. Scandinavian Literature of the 18th and 19th Centuries. Prerequisite for Scandinavian majors: course 30 or equivalent. For nonmajors: no knowledge of a Scandinavian language is required. Readings and discussions of selected works from the literature of Scandinavia in the 18th and 19th centuries. The Staff
31. Modern Scandinavian Literature. Prerequisite for Scandinavian majors: course 30 or equivalent. For nonmajors: no knowledge of a Scandinavian language is required. Readings and discussions of selected works from the modern Scandinavian literature. The Staff
32. Scandinavian Mythology. (Same as German M245.) Prerequisite: knowledge of German, a Scandinavian language, or consent of the instructor. Mrs. Rank
33. Seminar in Scandinavian Studies. (% or 1 course) Prerequisites: senior or graduate standing, and consent of the instructor. To be arranged with the member of the faculty who will direct the study. The member of the faculty directing the study will be identified by the same two-letter code used to identify his 599 research course. 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
34. History and Description of the Scandinavian Languages. Prerequisite: graduate status, and a thorough knowledge of one or more Scandinavian languages. Description of the Scandinavian languages and their development from the oldest period to the present. Emphasis will be placed on the relationship of the several Scandinavian languages to each other and to the other Germanic languages. The Staff
35. Advanced Old Icelandic Prose. Prerequisite: course 152 or equivalent. Readings in advanced literary texts in Old Icelandic. The Staff
36. Modern Icelandic (Poetry). Prerequisite: course 152 or equivalent. Readings in advanced poetic Texts, Eddie and Skaldic. The Staff
37. Scandinavian Mythology. (Same as German M245A.) Prerequisite: knowledge of German, a Scandinavian language, or consent of the instructor. Mr. Massengale
38. August Strindberg. Prerequisite: an advanced knowledge of German and consent of instructor. Intensive study of the Works of Ibsen. Mr. Massengale
39. Soren Kierkegaard. Prerequisite: an advanced knowledge of Danish and consent of instructor. Intensive study of the works of Kierkegaard. Concurrent scheduling with 146. Mr. Massengale
40. Seminar in Scandinavian Studies. Prerequisite: Graduate standing or permission of...
Instructor. Knowledge of a Scandinavian language is required. Intensive study of selected aspects of Scandinavian society based on readings in the literature and other documentary material. Course may be taken more than once if the graduate adviser determines that the course content is significantly different. Concurrent scheduling with 180. To be graded on Satisfactory-Unsatisfactory basis.

Individual Study and Research

59A-597Z. Directed Individual Study or Research. To be arranged with the member of the faculty who will direct the study or research. The member of the faculty directing the study will be identified by a two-letter code used to identify his 599 research course. To be graded on Satisfactory-Unsatisfactory basis. May be taken twice. Only one course in the 500 series may count toward the M.A. graduate course requirement.

59A-599Z. Preparation for the Qualifying Examination for the Ph.D. (1 to 2 courses) To be arranged with the member of the faculty who will direct the study or research. The member of the faculty directing the study will be identified by the same two-letter code used to identify his 599 research course. To be graded on Satisfactory-Unsatisfactory basis. May be taken three times.

59A-599ZZ. Research for Preparation of the Doctoral Dissertation. To be graded on Satisfactory-Unsatisfactory basis. May be taken unlimited number of times. To be taken with the member of the faculty who will direct the study. Each faculty member has his own doctoral research course identified by a two-letter code as follows: K.G. Chapman, 599RC; J.R. Massengale, 599JM; M.K. Norris, 599MN; R.P. Shadel, 599RS.
Qualifications. All history majors with a departmental GPA of 3.5 or better are eligible for the honors program. Candidates for honors will be required to meet all normal requirements of the history major described in the preceding section. Instead of History 197 or 199 honors majors are required to take two upper division courses for honors sequence, History 199H A-B-C, under the guidance of a sponsoring professor. These courses will be taken in the candidate’s senior year and will count as three courses in the regular ten upper division course requirement that applies to all history majors.

Admission to the Program: Students desiring to enroll in the honors program should consult the History Department Undergraduate Adviser normally at the end of their junior year in order to fill out the required application form.

Admission to Graduate Status
For admission to graduate status in the History Department students should normally have completed the undergraduate major or its equivalent; have received a bachelor’s degree or its equivalent from an acceptable college or university; and have maintained at least a B-plus average in that major and a B average in all courses taken in the junior and senior years. The Department requires applicants to provide three letters of recommendation. The Department reviews the Graduate Record Examination scores on the aptitude tests. Applicants for the field of U.S. History are required to submit GRE scores for the advanced test as well as for the general test. A minimum of seven hours (not major) points average may be admitted if their letters of recommendation and their Graduate Record Examination scores or other evidence indicate unusual promise. Students may be admitted with subject deficiencies, but such deficiencies will have to be made up by taking courses in addition to requirements for an advanced degree program. Applications for the academic year should be submitted by December 1st. Students are expected to begin their graduate work in the fall quarter. Only in exceptional cases will students be allowed to begin their work in the winter or spring quarter.

Information and applications for the Graduate Record Examination may be obtained by writing to the Educational Testing Service, 1947 Center Street, Berkeley, California 94704 or, for applicants east of the Rocky Mountain states, the Educational Testing Service, Box 955, Princeton, New Jersey 08540.

Teaching Credentials
Students may earn credentials for teaching history, government, social sciences and other subjects in California elementary and secondary schools. Completion of the Teacher Credential Program in the Teacher Education Laboratory is required. Consult with the Graduate School of Education (201 Moore Hall) for this information.

The Master’s Degree
Completion of the Master’s Degree at UCLA is designed to meet requirements for admission to the Department’s doctoral program. Students are advised to pace their Master’s degree over a two-year period, completing requirements within six quarters of study. For general University requirements, see “Master’s Degrees” in the “Colleges, Schools, and Graduate Division” section of this Catalog.

Departmental M.A. Requirements

Foreign Language. A reading knowledge of a foreign language approved by the Department. It is recommended that the requirement be met by the second quarter of graduate work.

Units of Work. Department: A minimum of nine upper division and graduate courses in history, at least five of which must be graduate courses. No course may be counted toward this requirement, and only one of the 500 series. Course work must be completed under at least three different professors.

Students concentrating in the following fields must meet the special requirements of the field: Near East – students should give evidence of their ability to carry out research, either in a multi-sequence course or directed research course; United States – students are required to take seven of the nine courses in the 200 series, one of which must be a research seminar in U.S. History for the M.A. and one of which must be History 247H (formerly History 200H). Students in European History must take History 225 (formerly History 216) and African History requires History 275 (formerly History 212).

The Department will recommend to the Dean of the Graduate Division that students who do not complete the Master’s degree in six quarters be dropped from departmental rolls automatically unless upon petition the Graduate Guidance Committee grants an extension of time.

Master’s Examination. The Department follows the Comprehensive Examination Plan (see “Thesis or Comprehensive Examination” in the “Colleges, Schools, Graduate Division” section of this Catalog). The examination will consist of either (1) a three-hour written examination designed to assess the candidate’s 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 the candidate’s study. At least two of these papers must have been submitted for graduate courses in the 200 series. Students in the U.S. field must submit the paper from the two-quarter research course in history.

In Spring Quarter of each academic year each field meets to determine which of the Comprehensive Examination options it wishes to adopt for the following academic year. In consultation with the faculty in each field the Chair of the Department then appoints a field M.A. committee which consists of at least three faculty members to administer the Comprehensive Examination for that year.

The Comprehensive Examination covers one of the following fields:

1. Ancient (also includes Ancient Near East).
2. Medieval, 300-1300 (also includes Byzantine and Medieval Jewish History).
3. Europe, 1500-1789 (also includes British History since 1763).
4. Europe since 1789 (also includes British History since 1763 and the British Empire).
5. Africa.
6. Near East (includes candidates with emphasis on Armenia).
7. India and Southeast Asia.
8. East Asia.
9. Latin America.
10. United States.
11. History of Science.
12. Special Fields: students in the History of Religion, Russian History, and Modern Jewish History will normally be examined in one of the above fields, but with the approval of the faculty in these fields may petition the Graduate Guidance Committee to arrange the M.A. examination in their field of specialization.

Field examiners administer the M.A. comprehensive exams in November, March, and May of each academic year, considering the candidate’s examination in relation to course evaluations filed by professors for all graduate courses taken by the candidate. To complete the examination file, an evaluation of the candidate’s potential must be forwarded to the Field Examining Committee by the professor from whom the candidate would like to become chair of the doctoral committee. The committee will recommend the following examination results: Pass to Continue; Pass Subject to Reevaluation; Terminally Failing. In cases where the M.A. is awarded with “Pass Subject to Reevaluation”, the field M.A. Committee will conduct a special reevaluation of the candidate’s progress after not more than an additional three quarters of study.

Special Requirements for Admission to the Doctoral Program

All students must be evaluated formally before proceeding to the Ph.D. degree. For the student who enters the graduate program with only a B.A. degree, this evaluation (see M.A. requirements above) must occur within the period of six quarters.

For students who enter with a Master’s Degree from another department, requirements must be completed by the end of three quarters of study in our department in order to determine whether or not they will be permitted to continue toward the Ph.D. This evaluation will be conducted in the same manner as described under “Master’s Degree”, except that for some candidates the written examination may be waived at the discretion of the field examination committee.

All candidates must present to the Graduate Guidance Committee a field approval form from the faculty member who has agreed to sponsor his/her work for the Ph.D. according to the following schedule: by the end of the sixth quarter or earlier for students entering with only a B.A., and by the end of the third quarter or earlier for students entering with an M.A. from another department.

Students who do not meet time limits on evaluation will be dropped from the departmental rolls automatically, unless upon petition they are excepted by the Graduate Guidance Committee.

Requirements for the Doctor’s Degree
A candidate for the degree of Doctor of Philosophy in history must meet all of the requirements for Admission to the Doctoral Program listed above; and (b) the general requirements set forth under the Graduate Division. Attention is directed to the requirement that a program, extending over the full time of study, must be approved by the Department. A command of good English, spoken and written, the ability to read at least two foreign languages (except for the field of United States History where one foreign language is now required), and an acquaintance with general history are expected of all candidates. The candidate is required to complete at least one continuing two- or three-quarter seminar. Students of United States History should complete History 245 and should write a dissertation prospectus (which could be written for credit as a History 596 or 597) expected to contain: a) a full statement of the dissertation topic; b) an historiographical discussion of the literature bearing on the topic; c) a statement of the methodology to be employed; and d) a survey of the sources sufficient to demonstrate the viability of the topic. The prospectus must be submitted in writing and approved by the dissertation adviser prior to the oral part of the qualifying examinations. After approval, copies will be given to each member of the examining committee. Students of European History should complete History 225 and students of African History should complete 275.

Foreign Language Requirements. A reading knowledge of the languages prescribed below for the major fields in history is required. Foreign languages are prescribed the student will display his competence in them by passing examinations administered by the Graduate Division. For a third or fourth language evidence of competence satisfactory to the chairperson of the doctoral committee will be considered acceptable.

Every student is urged, when possible and practical, to take a Graduate School Foreign Language Test before entering the department’s graduate program as an effort to demonstrate the foreign language requirements as quickly as possible. No oral qualifying examination for the Ph.D. may be scheduled until the student has passed an examination in one of these languages of at least the first quarter level. Students who have received the degree of Bachelor of Arts in United States History, who must pass only one foreign language.

1. Ancient History, French, German, Latin and Greek.
2. Modern European History and the History of Science. Either French or German and a language needed by the student in his research and approved by the Guidance Committee.

3. Near Eastern History. Three languages — two Western and one Near Eastern — are required. They are to be selected on the basis of the candidate's specialization. The two Western languages will generally be French and German, but Russian may be substituted for one of those in certain cases. Competence in all three foreign languages must be proven before the written examinations administered by the Graduate Division.

4. British History. French and German, with the possibility of substitution.

5. Medieval History. French and German for all candidates plus Greek for those specializing in Byzantine history and Latin for those specializing in medieval western history. Students are expected to have French or German at the beginning of their graduate studies.

6. African History. French and at least one other European or African language needed for the student's research, and approved by the Chairperson of the Ph.D. Committee.

7. Asian History. (a) India: for those specializing in Indian History, three languages chosen from the following: French and/or German, Dutch or Portuguese, plus Hindi and/or one classical or modern regional language; (b) East Asia: (i) the M.A. degree: two years of Chinese or Japanese, or one European language certified by an ETS score of 500 or better; (ii) for the Ph.D. degree in Chinese history: specialization in Russian or Chinese for the Ph.D. degree in Japanese: French and either German or Dutch plus Japanese; for the Ph.D. degree in Japanese history: French and either German or Dutch plus Japanese. Admission to candidacy for the Ph.D. in the Chinese and Japanese fields requires the completion of a comprehensive exam in the major field. Students are advised that successful completion of this seminar usually requires the equivalent of at least four years of superior college level language work in Chinese and/or Japanese.

8. United States History. One modern foreign language to be fulfilled through a departmentally administered reading exam or a score of 500 on the GSFL.

9. Latin American History. Two of the following options: Spanish, Portuguese, or special methodology.

10. Russian History. Russian and German as well as French or another language deemed necessary by the instructor for the candidate's research.

11. History of Religion. French and German plus (in most cases) a classical or ancient language in the religious tradition of the specialization.

12. Jewish History. Hebrew plus another European language or Arabic.

13. Armenian History. Armenian, French, and an additional language or languages deemed necessary for the research to be undertaken. Students specializing in the Ancient and Medieval periods will be encouraged to prepare in Greek and/or Latin, where students specializing in the Modern period will be encouraged to prepare in Turkish and/or Russian.

14. Ancient Near East. French, German and two ancient languages, one of which should be either Akkadian, Babylonian, or Ugaritic. The other ancient language may be chosen out of Sumerian, Hittite, Ugaritic, Phoenician, Aramaic, Greek or Latin, depending on individual programs. It is expected that the ancient languages, with all attendant problems of philology, will constitute the fourth field of the doctoral examination.

15. Southeast Asia. Two languages; one chosen from the following: French, Dutch, Spanish. One of the languages of the area. Except in the fields of African, Asian, British and United States history, reading knowledge of an appropriate language is required for admission to all graduate seminars.

Qualifying Examinations

Before admission to candidacy students must pass oral and written examinations. In these examinations the student is expected to show an adequate grasp of the wider field of historical knowledge and ability to correlate historical data pertaining to them. It is required to explain these examinations are designed to test not merely factual knowledge but also powers of historical analysis and synthesis, critical ability, and capacity for independent thinking. The student's knowledge of any area includes a reasonable knowledge of its historiography and bibliography; of its geography; and of its political, cultural, economic, and other historical aspects. The candidate is to be examined by four fields, one of which may be an approved field in anthropology, economics, geography, language, and literature, philosophy, political science, or other allied subjects. This allied field must be comparable in size and scope to the history fields listed below. The candidate should select the fields in consultation with his/her faculty sponsor and must receive the Department's approval of all the fields before the Ph.D. Committee exerts the qualifying examination is taken. To obtain this approval the student must show the Graduate Guidance Committee the name of the faculty member who has approved the candidate's dissertation and the details of the proposed program. A full-time graduate student must begin the qualifying examinations not later than the end of the quarter of graduate work. See GSFLT for the specific timing leading to the Doctor's Degree listed below.

Method of Examination

Except for students of United States History, the written qualifying examination is normally prepared and administered by the chair of the student's doctoral committee before the oral qualifying examination. The written qualifying examination includes the major field only. The oral examination will cover all four fields and will normally be held shortly after the written examination, but at the discretion of the doctoral committee it may be held as late as six months after the written examination. Both the written and oral examinations are the responsibility of the student.

Successfully passing the written qualifying examination is required for eligibility for the oral qualifying examination. The members of the evaluation committee or the final doctoral committee determine whether or not an examination may be repeated (normally only once), based on their prognosis of the candidate's potential for successfully completing both the written and oral examinations within a specified period of time to be designated by the examining committee, but not to exceed one calendar year. For United States History, the written examination must be retaken at the next administration of the examination, if a student fails the oral examinations she/must retake it at the next administration or within four years, but not to exceed six months. Any variance from these time limits must be approved by the American Field before going to the Graduate Guidance Committee for final approval.

For students of United States History, the written Ph.D. examination will be administered twice a year, in May and November, and will be composed of questions solicited from faculty in the entire field of United States History. The committee of three faculty members of the United States History Department will make up and read the examinations for all students taking the examination during the academic year. The examination is intended to test a comprehensive, broad understanding of American history before and after the independence of the United States. All facets of history (political, social, diplomatic, etc.) are included. An ability to synthesize factual information, sometimes across long chronological periods, is consequently essential. Knowledge of the scholarly literature and of the principal historiographical controversies arising out of it are tested along with the examinee's own interpretative capabilities.

Successful passing of the examination implies that the examinee is qualified, in the judgment of the U.S. Field, to teach courses in United States history at the college level. Questions relating to the plans of such courses may appear on the examination.

Fields of Examination

Ancient Greece; Ancient Rome; Medieval Constitutional and Legal; Medieval Social and Economic; Medieval Ecclesiastical and Religious; Medieval Intellectual Life and Culture; Latin America Since 1500; Southeast Europe (Balkans); Britain to 1485; 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 Comparative History preferably on a regional basis; History of Science to 1600; History of Science Since 1600; Europe; Renaissance-Reformation; Renaissance to the French Revolution (1470); European Socio-Economic History; European Intellectual and Cultural History; Psycho-history; China, 900-1800; China Since 1800; Modern Japan; South Asia (India); East Asia; Latin America Since 1759; History of Religions; Jewish History; Comparative History; United States: (1) Mastery of a general field sufficient to teach a college level survey course in United States History; (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, Immigration, Intellectual, Jeffersonian and Jacksonian American (1800-1850), Labor, Mexican-American, Political Biography, Social, The New Nation (1800-1860); Latin America; Women's History. Both fields must be submitted for specialists in U.S. history and only two fields in U.S. history are permitted. Either (1) or (2) or both may be chosen as minor fields for the Ph.D.

In addition to the European fields listed above, there is now a program in European Intellectual and Cultural History. Candidates working toward a doctorate in this field would offer fields in (1) the socio-political history of Modern Europe, (2) intellectual history, (3) one other period field (such as medieval, ancient, or a given national history, etc.), and normally, (4) one field in some discipline outside the Department (in philosophy, literary criticism, psychology, linguistics, sociology of culture, art history, etc.). Like students working in the earlier period (16th-18th centuries) must demonstrate minimal competency in Latin as well as in two modern European languages.

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, but not necessarily, coincide with time-area spans of the other three fields defined for Ph.D. qualifying examinations. Each candidate offering a field in Comparative History must be required to submit a special written statement defining his or her particular field of study which must be approved by the candidate's proposed doctoral committee before proceeding to the Graduate Guidance Committee for approval of the doctoral committee and four fields of examination.

Candidates in the history of science program must select three of the above fields and either the history of medicine or an allied field. This candidate must also demonstrate a detailed knowledge of the substance and historical development of a particular science, or of a type of engineering or technology, as a subfield common to these other fields.

Final 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. The candidates

NOTE: For key to symbols, see page 74
will be expected to show such a mastery of their special fields, and such an acquaintance with the literature, general and special, bearing on them as would qualify them to give instruction to mature students. After approving a dissertation, the Chair of the Department, with the unanimous consent of the entire committee, recommends a waiver of the final oral examination.

Dissertation
Candidates are required to present a dissertation on a subject of their choice such as to show a thorough mastery of the sources of information, the ability to carry out independent research, and to communicate its results in good literary form. In lieu of the customary type of dissertation, a student may in certain cases edit, or translate and edit, some historical source. Such a project involves careful textual criticism, explanatory annotations, and an historical introduction clearly showing the contribution of the source to historical knowledge. For the time limit on completion of the dissertation, see below. Besides demonstrating competence as research scholars by completing a dissertation, degree candidates must also demonstrate ability to give instruction in their fields.

Time Limits for Completion of Stages Leading to the Doctor's Degree
After completion of the Bachelor's degree (and including any postgraduate work in this or other departments), the following schedule is mandatory:

1. Oral examinations must be completed by the end of the ninth quarter except in United States History where they must be taken within six months of the written examination.

2. (Dissertations must be completed within twenty quarters, including leaves of absence following completion of the oral examination). Candidates will be dropped from departmental rolls automatically if they exceed these time limits for completion of the oral examination and dissertation. In addition, the Graduate Guidance Committee conducts an annual evaluation of all graduate students each spring quarter. This evaluation is made in consultation with the entire departmental faculty in order that appropriate action may be taken in cases of unsatisfactory student progress. Students who do not maintain a 3.0 grade-point average are subject to dismissal.

Lower Division Courses

1A-1B-1C. Introduction to Western Civilization
Lecture and discussion. A broad, historical study of major elements in the Western heritage from the world of the Greeks to that of the twentieth century, designed to further beginning students' general education, introduce them to ideas, attitudes, and institutions basic to Western civilization, and to acquaint them, through reading and critical discussion, with representative contemporary documents and sources not enduring interest. The Staff

2A-2B-2C. History of Technology from Antiquity to the Twentieth Century
Designed for students in the natural sciences, social sciences, and fine arts. It is a survey of the development of man's ability to understand more fully and to utilize more efficiently his natural environment, stressing technology's changing social, economic, scientific, and cultural relationships. Mr. Burke

3A-3B-3C. Introduction to the History of Science
A broad 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. Burke, Mr. Westman, Mr. Wise

3B. The Physical Sciences since the Enlightenment
A broad survey of the development of ideas in classical and modern physical science since Newton. The unifying theme will be theories of matter, but more specifically Chemistry, Thermodynamics, Electromagnetic Theory of Light, Energy Conservation, Relativity, and Quantum Mechanics will be discussed.

Mr. Burke, Mr. Wise

3C. The Biological Sciences, 1800-1955
A survey of the development of the biological sciences from classical Greek and early Christian theories to modern history with its discoveries of the religions of India, China, the ancient Near East, etc., and the problems encountered by various religions in the 19th and 20th centuries.

Mr. Frank

4. Introduction to the History of Religions
A discussion of the various systems, ideas, and fashions of thought X that have dominated western approaches to the religions of the world since Antiquity. The course surveys the development form classical Greek and early Christian theories to modern history with its discoveries of the religions of India, China, the ancient Near East, etc., and the problems encountered by various religions in the 19th and 20th centuries.

Mr. Bolle

6A-6B-6C. History of the American Peoples
A survey of the American Peoples from the advent of aboriginal society to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change.

Mr. Nash, Mr. Saxton and Staff

6B. 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.

Mr. Monkkonen

7A-7B. Survey of the Political History of the U.S. Lecture and discussion. A survey of the history of the U.S. from the Revolutionary Era to the present. Emphasis will be given to political developments, and to the social, cultural, and economic bases of American politics. The courses are designed for students in the social sciences, and other departments, who desire a thorough grounding in American political culture. The sequence (or two quarters of History 6) is strongly recommended for history majors planning to take more advanced courses in U.S. history. Mr. Catell, Mr. Howe, Mr. Saxton

8A. Latin America: Reform and Revolution
A general introduction to Latin America emphasizing those institutions in the past which have shaped the present and the struggle for change in the twentieth century. Movies and discussions complement the topical lectures.

Mr. Burns and Staff

8B. Latin American Social History
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 film illustrative of a theme in social history. May be taken independently of 8A.

Mr. Burns and Staff

9A-9D. Introduction to Asian Civilizations
(1 course each)

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 from antiquity to 1950; the problems of political change; China's response to the western impact in modern times.

Mr. Farquhar

9C. History of Japan. A survey of Japanese history from earliest recorded times to the present with emphasis on the development of Japan as a cultural daughter of China. Attention will be given to the manner in which Chinese culture was Japanized and the aspects of Japanese civilization which became unique. The creation of the modern state in the last century and the impact of Western civilization on Japanese culture will be treated.

Mr. Notehelfer

9D. History of the Near and Middle East. An introduction to the history of the Muslim world from the advent of Islam to the present day.

Ms. Marso

10A-10B. Introduction to the Civilizations of Africa. Explores African cultures on a thematic basis within a wider framework of political change over time. Intended for students with a general interest in Africa, but also strongly recommended for those intending to take upper division courses in African History.

M70. Survey of Mediaeval Greek Culture
(Same as Classics M70) Classical roots and mediaeval 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. Prerequisite: Restricted to Freshmen and Sophomores. This 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.

The Staff

99H. Introduction of Historical Practice. (Restricted to Freshmen and Sophomores). This 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. Burns, Mr. Posansky

Upper Division Courses
The prerequisite for all upper division courses is upper division standing or consent of the instructor, unless otherwise stated. For certain graduate courses which are open to students with Upper Division standing and with the permission of the instructor, see prerequisite under "Graduate Courses" heading.

100-103 General History
104-114 Near and Middle East
115-124 Ancient and Medieval
125-144 Europe
145-164 United States
165-174 Latin America
175-181 Africa
182-192 Asia
191-192 Jewish
193 Religion
195 Science
197 Undergraduate Seminars
199 Special Studies in History

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. Reil

101. Introduction to Historical Practice. Prerequisite: Restricted to Juniors and Seniors. This 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.

The Staff

102. Explorations in Psychoanalysis and History. (Formerly numbered 104). Prerequisite: consent of instructor. This course will discuss the historical methods of psychoanalytic and historical interpretation, and will assess recent writings in the field of psycho-history. Limited to 35 students

Mr. Loewenberg, Mr. Wohl

104. History of Ancient Egypt. (Formerly numbered 117). A cultural history of ancient Egypt from predynastic times to the end of the new kingdom.

The Staff
105A-105B. History of Ancient Mesopotamia and Syria. (Formerly numbered 140A-140B). The political and cultural development of the "Fertile Crescent," including Palestine, from the Neolithic to the Achaemenids; relations with early Babylonia. Mr. Buccellati

106A. The Middle East from 600 to 950. (Formerly numbered 134A). Survey of the background of circumstances of the rise of Islam, the creation of the Islamic empire, and the development of both of the middle of the tenth century A.D. and the 9th century A.H. Mr. Morony

106B. The Middle East from 950 to 1500. (Formerly numbered 134B). Survey of the political, social, economic, and religious history of Islamic western Asia, with some attention to North Africa, from the middle of the 9th/10th to the end of the 15th/16th century. Mr. Morony

107A. Islamic Civilization: religious themes. (Formerly numbered 135A). Origins of Islamic civilization; Muhammad and the Qur'an; development of Muslim doctrine, piety, and law; sectarian Islam, mysticism, and Islam in the modern world, emphasizing methods of comparative religion, religious dynamics, and history of religion. Mr. Morony

107B. Islamic Civilization: political, social, economic themes. (Formerly numbered 135B). Islamic political theory, administrative and military traditions, social organizations, urban society, education, commercial and productive organization, concepts of property and agrarian issues. Mr. Mellor

108A-108B. The Middle East: 1500 to the Present. (Formerly numbered 136A-136B). Social, intellectual and political change in Turkey, Iran, and the Arab countries from 1500 to the present. Mr. Mango, Ms. Keeler, Mr. Kot


109A. To 1578 Mr. Morony

109B. From 1578 to the present Ms. Marsot

110A-110B-110C. Islamic Iran. (Formerly numbered 130A-130B-130C). Political, social, and cultural history of Persia. 110A. 600 to 1400 Mr. Banani

110B. 1400 to 1800 Mr. Banani

110C. 1800 to present Ms. Keddie

111A-111B. History of the Turks. (Formerly numbered 132A-132B). Political, social, cultural, and religious history of the Turks from earliest times to the present. Mr. Morony

111A. Origins to 1080. Turkish and Seljuk dynasties, relations with early Babylonia, Byzantine, and Arab empires. Mr. Banani

111B. 1080 to 1400 Mr. Banani

111C. 1400 to present Ms. Keddie

112A-112B-112C. Armenian History. (Formerly numbered 131A-131B-131C). The Armenian experience from ancient to modern times.

112A. From epic origins to the Bagrati kingdom. Second millennium B.C. to 1071 A.D. The Urartuans; the national state; the emergence of the Persian, Roman, Byzantine, and Arab empires; the socio-economic structure; the impact of Christianity. Mr. Hovannisian

112B. From the Crusades to the Armenian Question. 11th-19th centuries. The Cilician kingdom; Mongol and Mamluk conquests; the Armenian experience under Seljuk, Ottoman, and Safavid rule; the union of Eastern Armenia to the Russian empire; the Armenian intellectual and political revival. Mr. Hovannisian

112C. Modern and Contemporary times. The Armenian Question since 1876; from reform movements to resistance; the massacres of 1894-1896; the Turkish Armenian and the Russian Armenian provinces; the Armenian Holocaust, 1915-1923; the Armenian republic, Soviet Armenia, and the Arab-Armenian communities. Mr. Hovannisian

112D. Introduction to Armenian Oral History. (Formerly numbered 131D). The uses and techniques of Armenian oral history; the pre-interview, the interview, and post-interview procedures; methods of compiling and evaluating the data; includes field assignments and interviews. May be concurrently scheduled with History 212. Mr. Hovannisian

113. The Caucasus under Russian and Soviet Rule. (Formerly numbered 132A). A survey of the political, economic, social, and cultural history of the Caucasus region since 1801. The Georgian, Armenian, and Azerbaijani response to Russian and Soviet rule; the nationality question and the Soviet national republics. Mr. Hovannisian

115A-115B-115C. History of the Ancient Mediterranean World. (Formerly numbered 111A-111B-111C). A survey of the history of the ancient East from earliest times to the foundation of the Persian Empire. Mr. Mellor

115B. The history and institutions of the Greeks from their arrival to the death of Alexander Mr. Chambers, Mr. Mellor

115C. The history and institutions of Rome from the founding of the city to the death of Constantine. Mr. Chambers, Mr. Mellor

116A-116B. History of Ancient Greece. (Formerly numbered 112A-112B). Mr. Chambers

116A. The Greek city-state. The emphasis will be on the period between the Persian Wars and the rise of Macedon. Mr. Chambers

116B. The Hellenistic Period. A consideration of the new patterns in government, social life, science, and the arts that appeared between the Macedonian conquest and the decisive intervention of Rome. Mr. Chambers

117A-117B. History of Rome. (Formerly numbered 113A-113B). Mr. Chambers

117A. To the death of Caesar. Emphasis will be placed 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 will be treated in more detail supplemented by a survey of the social and economic changes in the third century. Mr. Mellor

118. Introduction to Roman Law. (Formerly numbered 118A). This course will provide an overview of the public (constitutional), criminal and private law of the Romans. Some subjects treated will be 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. (Formerly numbered 118A). Constitutional, political, and economic history of the Church: Christianization of the Roman Empire and the Germanic kingdoms; the governance and institutions of the Church; relations between Church and monarchy; the high tide of papalism; crises of authority on the eve of the Reformation. Mr. Benson

120. The Christian Religion. (Formerly numbered 118B). The religious experience of Christianity—conversion, doctrine, belief, heresy, spirituality, worship, liturgy, and art—from the founding of the Church till the eve of the Reformation. Examines the religious lives of lay Christians as well as that of the Church's institutional, intellectual, and spiritual leaders. Mr. Benson

121A. The Early Middle Ages. A survey of religious, intellectual, artistic, social, and economic changes in Europe from the decay of the Roman Empire until about 1050. Mr. Hovannisian

121B. The Later Middle Ages. A continuation of course 121A from 1050 to about 1450, with the added consideration of the new scientific movements. Mr. Rousseau

121C. Medieval Civilization: The Mediterranean Heartlands. A survey of Western Medieval Europe, social-economic-cultural within a political framework, including its relation with other cultures. Mr. R.I. Burns, S.J.

121D. Medieval People: The Thirteenth Century. Medieval life and creative contributions. A survey of Christian culture in this central century of the Middle Ages, as seen in its representative men and works. Mr. R.I. Burns, S.J.

M122A-M122B. Byzantine Civilization.

M122A. (Same as Classics M170A). Emphasis is laid on Byzantine theology.

M122B. (Same as Classics M170B). Literature, relations with Rome, and the Renaissance. Mr. Dyck

123A-123B. Byzantine History. The course stresses the political, socio-economic, 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, Sasanids, Arabs, and Turks. Mr. Vryonis

125A-125C. History of Modern Europe. (Formerly numbered 141A-141G).

125A. The Renaissance: Power and culture in the Italian City-States. Mr. Marsot

125B. The Reformation: Church and religion in early 16th century. Revolutionary tendencies in German society. The Peasant Uprising. Theology and political thought of Erasmus, Luther, Zwingli, Calvin, and the Anabaptists. The new churches. The effects of the Reformation on society. Mr. Claesen

125C. Europe, 1560-1660. Religious and national conflicts, political and social developments in Continental Europe, primarily France, Germany and the Lowlands. Mr. McKeon

125D. Europe under the old Regime: A comparative social history of England, France, and Germany. Mr. Reill

125E. Europe, 1789-1848: The French Revolution and the Industrial Revolution. Political revolution in France, and its failure in England and Germany. Industrialization in England, economic retardation in France and Germany. Changes in social structure, the family, living conditions, population growth, and popular protest. Mr. Reill

125F. Europe, 1848-1900. The legacy of the revolutionary movement in France, Germany, and Italy. Napoleon III; National unification in Central Europe; Italy; Industrialism and Industrialism; the rise of socialism and popular political parties; the crises of liberal humanism and the culture of fin de siecle Europe. Mr. Reill


126A-126E. Cultural and Intellectual History of Modern Europe. (Formerly numbered 142A-142E). Climates of taste and climates of opinion. Educational, moral and religious attitudes; the art, thought and manners of the time in an historical context. Quarter courses are oriented approximately as follows:

126A. 16th Century Mr. Hoxie, Mr. Western

126B. 17th Century Mr. Hoxie, Mr. Fenkenstein

126C. 18th Century Mr. Hoxie, Mr. Reill

126D. 19th Century Mr. Loewenberg, Mr. Weber

126E. 20th Century Mr. Loewenberg, Mr. Weber, Mr. Wohl

127A-127B. War and Diplomacy in Europe. (Formerly numbered 147A-147B). Survey of military and diplomatic history, seen in relation to social and economic conditions.
developments and the growth of the state.

Mr. Symcox

127B. 1815-1945. The balance of power; the growth of the nation state; imperial and colonial rivalries; the two world wars.

Mr. Symcox

128A-128E. History of Modern France. (Formerly numbered 14A-14E).


Mr. Loosky

128B. France, 1620-1789. Political and intellectual history of France, principally in the seventeenth century, with special emphasis on the role of Richelieu and of Louis XIV.

Mr. Loosky

128C. The Revolution and Napoleon. The Staff

128D. 1815-1870. The Staff

128E. Contemporary France. The Staff

129A-129D. History of Modern Germany and Austria. (Formerly 144A-144D).


Mr. Claesen

129B. 17th Century. A study of the political, social, and economic developments of Germany and Austria. Topics to be covered are: Enlightened absolutism, bureaucracy and reform, conflicts between the Empire and the principalities, the Seven Years' War, Pietism, cultural life and the universities.

Mr. Reill


Mr. Loewenberg

129D. 20th Century. The political, social, economic, and cultural history of Germany speaking Central Europe, the Hohenzollern and Habsburg Empires. The World Wars, postwar revolutions, republics, the rise of fascism and Nazism, Occupation and the Austrian, German Federal, and the German Democratic Republics.

Mr. Loewenberg

130A-130B. The Netherlands in European Affairs, 1450-1795. (Formerly numbered 145A-145B).

130A. 1450-1609. Unification of the Low Countries under the House of Burgundy; culture of the Burgundian court and of the Netherlands. Civil wars in the Netherlands and war with Spain within the framework of European politics to the Truce of 1609.

Mr. Loosky


Mr. Loosky

131A-131D. Topics in Russian History. (Formerly numbered 146A-146D).

131A. The Origins of Russia: Kievan Russia and its Carpathian, Principalities and khanates, the Mongol Inroads, the Unification of the Russian State by Muscovy, Autocracy and its Servitors: Serfdom.

Mr. Kreik, Mr. Loosky

131B. Imperial Russia: Westernization of State and Society; Centralization at Home and Expansion Abroad; Political, Economic, and Social Problems; Borderlands, Russian Expansion, Industrialization; Political Reforms; Movements of Political and Social Protest. The Revolution of 1905.

Mr. Roger

131C. 20th Century Russia: Relations between State and Society; Peasantry and Working Class; Russia in World War I; the Revolutions of 1917; Consolidation of the Bolshevik Regime; Succession Crisis and Ascendancy of Stalin; Collectivization and Industrialization; Foreign Policy and World War II; Death of Stalin and De-Stalinization.

Mr. Rogger

131D. Prerequisites: a background in Russian history, literature or European social thought. Social Thought and Movements in Modern Russia, late 18th to early 20 centuries.

Mr. Rogger

132A-132B. History of Italy. (Formerly numbered 148A-148B).

132A. ca. 1530-1815. 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. 1816 to the Present. Political, economic, social, diplomatic and ideological developments.

Mr. Wohl

133A-133B. The Social History of Spain and Portugal. (Formerly numbered 148C-148D).

133A. 1459-1789. This course will deal with the development of popular history in the Iberian Peninsula. Emphasis will be given to peasant and urban, gold routes, slave trade; history of women, and the development of different types of collective violence.

Ms. Kaplan

133B. 1789 to the Present. Spain's position in Europe and its potentialities for social change will be discussed through investigations of urban history, agrarian social structure, history of women, problems of slow industrial development, imperialism, anarchism, and labor history.

Ms. Kaplan

134A. Southeastern Europe, 500-1500. (Formerly numbered 149A). A political, economic, and cultural survey of the independent Balkan states in the Middle Ages.

Mr. Kreik

134B. Southeastern Europe, 1500-1918. (Formerly numbered 149B-C). The Balkans under Ottoman rule, movements of national liberation and the formation of nation states.

Mr. Kreik


Mr. Brenner, Mr. Kaplow

136A-136Z. Topics in European History. (Formerly numbered 160A-160Z). The individual courses in this series aim to provide students with the background and different aspects of political and economic life as required for a serious understanding of the culture. Appropriate reading assignments will be made.

Mr. Wohl

137A-137B. Themes and Problems in English History Since 1500. (Formerly numbered 150A-150B). Prerequisite: upper division standing or consent of the instructor. A general survey of English history since c. 1500 with analysis of particular social, political, religious and economic questions. The division between courses A and B occurs at c. 1714.

Mr. Moore


138A. Anglo-Saxon England and the Norman Conquest. 450-1066. The Anglo-Saxon period, the coming of the Normans, the problems of the English church, its role and relationship to the English crown, and the Carolingian influence. The Norman ascendancy and the Era of Good Feelings, 1800-1815. Mr. Nash

139. Renaissance England. (Formerly numbered 150C-150D). Culture and Society. Emphasis on literary culture (Elizabethans, Iacobins, Caroline). Prerequisite: previous course work in English literature, especially the countryside, 1450-1700; the transformation of class relations; the emergence of political conflicts; state centralization and military aristocracy, Crown versus Parliament, the English Revolution.

Mr. Brenner


140A. The development of capitalism in England especially the countryside, 1450-1700; the transformation of class relations; the emergence of political conflicts; state centralization and military aristocracy, Crown versus Parliament, the English Revolution.

Mr. Brenner

140B. Analysis of the transformation of religious and political ideology in relationship to socio-economic and political conflicts. The English Reformation and the development of the State; Protestantism and political opposition; religious radicalism and the English Revolution. (Covers same period as History 140A from different angle, so it is preferable to take History 140A-B in sequence).

Mr. Morgan

141A-141B. Modern England. (Formerly numbered 154A-154B). Analyses of the English economy, society and polity since 1688, focusing upon the dynamics of both stability and change.

141A. 18th and 19th centuries, 1688-1832.

141B. 19th and 20th centuries, 1832 to World War II and its aftermath.

Mr. Moore

142A-142B. The British Empire Since 1783. (Formerly numbered 158A-158B). The political and economic development of the British Empire, including the evolution of colonial nationalism, the development of the commonwealth idea, and changes in British colonial policy.

Mr. Galbraith, Mr. SarDesai

143. History of Canada. (Formerly numbered 159). A survey of the growth of Canada into a modern state from its beginnings under the French and British colonial empires.

Mr. Galbraith

145A. Colonial America, 1600-1763. (Formerly numbered 171A). An examination of the molding of an American society in English North America from 1600 to 1763. Emphasis is given to the interaction of three converging cultures: Western European, West African, and American Indian.

Mr. Nash

145B. Revolutionary America, 1760-1800. (Formerly numbered 171B). An inquiry into the origins and consequences of the American Revolution, the nature of the revolutionary process, the creation of a constitutional national government, and the development of a capitalist economy.

Mr. Nash

146A-146B. The United States: 1800-1850. (Formerly numbered 172A-172B).

146A. Jeffersonian America. Jeffersonian aristocracy and the Era of Good Feelings, 1800-
1828: disintegration of the Federalist opposition; the testing of American nationality in the second war with Britain; beginnings of the transportation and industrial revolutions; restructuring of politics in an increasingly egalitarian age.

Mr. Catell, Mr. Howe

146B. Jacksonian America and Beyond. The "Jacksonian Revolution" and its aftermath, 1829-1850; the problem of national power versus state sovereignty; problems of rapid social change through industrialization and urbanization; reform impulse; antislavery movements; territorial expansion as focus for sectional rivalry and heritage.

Mr. Catell, Mr. Howe

147A. The United States: Civil War and Reconstruction. (Formerly numbered 173A). The topics studied will include: the rise of sectionalism, the antislavery crusade; the formation of the Confederate States; the war years; political and social reconstruction.

Mr. Robinson

147B. The United States, 1875-1900. (Formerly numbered 173B). American political, social, and institutional history in a period of great change. Emphasis on the altering concepts of the role of the government and the responses to that alteration.

Mr. Saxton


Mr. Coben, Mr. Weiss

148C. The United States Since 1945. (Formerly numbered 174C). A history of the political, social and diplomatic developments that have shaped the United States since 1945. Mr. Dallek, Mr. Weiss

149A-149B. American Economic History. (Formerly numbered 177A-177B). American economic history will be covered 149A. Examines the roles of economic forces, institutions, individuals and groups in promoting or impeding effective change in the American economy, 1790-1910. During this period the technical skeleton of the modern industrial structure was formed. In this course explain why and how American economy evolved into a dual economy, characterized by a center of firms large in size and influence, and a periphery of smaller firms.

149B. Examines the dynamics of change in the dual economy, focusing in greater detail upon interrelationships between macro and micro developments in the economy and upon the growing interdependence between the U.S. and the world economy, 1910 to the present. Ms. Yeager

150A-150B. Intellectual History of the United States. (Formerly numbered 177A-177B). The principal ideas about humanity and God, nature and society, which have been at work in American history. Includes the sources of these ideas, their connections with one another, their relationship to American life, and their expression in great documents of American thought.

Mr. Howe

150C. History of Religion in the United States. (Formerly numbered 177C). Consideration of the religious dimension of people's experience in the United States. A number of religious traditions which have been important in this country will be examined, and attention devoted to relating developments in religion to other aspects of American culture.

Mr. Howe


Mr. Catell

151B. A study of constitutionalism since the Civil War. Particular emphasis on the development of the Supreme Court, the due process revolution, the Court and political questions, and the fact of judicial supremacy within self-prescribed limits.

152A-152B. American Diplomatic History. (Formerly numbered 178A-178B). 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. (Formerly numbered 183). An examination of the interrelations of immigration and of nationalism and independence between the United States and the Philippines focused mainly within the time period 1898 to the present. (Survey level familiarity with Southeast Asian or United States history, or both, is recommended but not a prerequisite.)

Mr. Saxton

154A-154B. United States Urban History. (Formerly numbered 189A-189B). The pre- 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 pre- and early industrial economic relationships.

Mr. Monkkonen

154B. The industrial and post-industrial city. (189A is not a prerequisite). Focuses on the mature urban network, with concentration on social, spatial, and economic interaction. The issues of race, ethnicity, neighborhood, crime, poverty, ethnicity and racial discrimination will be covered.

Mr. Monkkonen

154C-154D. History of American Architecture and Urban Planning: 1600-2000. The present. (Formerly numbered 1801-1805). 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 reflects its users and users to what extent to which it has reflected their values and ways of living. 154C covers from 1600 to 1890. 154D covers from 1890 to the present.

Mr. Hines

155A-155B. American and European Working Class Movements. (Formerly numbered 185A-185B). Examines major episodes in the institutional, economic, and cultural development of the American working class from colonial times to the present, emphasizing both organized and unorganized labor. A.F. of L., rise of industrial unionism, and labor politics are also discussed.

Mr. Laslett


156C-156D-156E. Social History of American Women. (Formerly numbered 171C-171D-171E). A survey of the major demographic, economic, wage and intellectual factors shaping the women of working families, at work and at home, large social communities. Class, regional, racial, and ethnic communities will be examined.

156C. Colonial and Early National—1600-1820.

Ms. Sklar


Ms. Sklar


Ms. Sklar

157A-157B-157C. North American Indian History. (Formerly numbered 180F-180G-180H). History of the American Indian, from first appearance to the present. Emphasizes the ethnohistorical dimensions of culture change, Indian political processes and the continuity of Native American cultures. Focuses on selected Indian peoples in each period.

157A. Contact—1760.

Mr. Morrison

157B. 1760-1860.

Mr. Morrison

157C. 1860-Present

Mr. Morrison

158A. Comparative Slavery Systems. (Formerly numbered 176C). An examination of the slavery experience in various New World slave societies. The new course focuses on the history of the black experience, the differences among the legal status, treatment and slave cultures of North American, Caribbean and Latin American Slave Societies.

Mr. Robinson

158B-158C. Introduction to Afro-American History. (Formerly numbered 176A-176B). A survey of the Afro-American experience. These courses focus on the three great transitions of Afro-American life: the transition from Africa to New World slavery, the transition from slavery to freedom, the transition from rural to urban milieu.

Mr. Hill, Mr. Robinson

158D. Afro-American Urban History. (Formerly numbered 176D). An examination of Afro-American urban life prior to the 1890's. Focuses on the transformation from slavery to freedom and the shift from southern to northern areas. It looks closely at the forces which both propelled Afro-Americans to the cities and which also inhibited their adjustment to them.

Mr. Robinson

158E. Afro-American Nationalism in the First Half of the Twentieth Century. (Formerly numbered 176E). A critical examination of the Afro-American search in the first half of the twentieth century for national/group cohesion through the establishment of institutions, associations, organized protest movements, and ideological self-definition.

Mr. Hill

159A-159B. History of the Chicano Peoples. (Formerly numbered 186A-186B). The character, values, economy, social structure, politics, culture, and cultural and intellectual heritage of the Mexican-Americans as related to the history of the United States and Mexico, with emphasis on the Southwest.

Mr. Gomez-Quinones

160. The Immigrant in America. (Formerly numbered 182). An historical analysis of the economic causes and effects of immigration, particularly after the 1880's, emphasizing the problems of acculturation and adjustment. The restrictions and the implications of immigration policy on U.S. foreign policy will be stronger.


162. The American West. (Formerly numbered 181A). A study of the West as frontier and as region, in transit from the Atlantic seaboard to the Pacific, and from the 17th century to the present.

Mr. Hundley

163. History of California. (Formerly numbered 188). The economic, social, intellectual, and political development of California from the earliest times to the present.

Mr. Hundley

165A-165B. Colonial Latin America. (Formerly numbered 168A-168B). Studies in the general development of Latin America prior to 1825 with emphasis on social history.

Mr. Lockhart

166. Latin America in the 19th Century. (Formerly numbered 182A). An intensive analysis of the economic, social, and political history of the Latin American nations from their independence to around 1910.

Mr. Burns, Mr. Burr

167A-167B. Latin America in the 20th Century. (Formerly numbered 162B). Examination of the "widening gap" between the 20 republics of Latin America and the United States suggests the hypothesis that the gap has increased. The course will consider the economic conditions of the Latin American nations in their relationship with one another and

NOTE: For key to symbols, see page 74
of instructor. Studies intensively several topics in the development of classical physical science from Newton's Mechanics to Maxwell's Electromagnetic Theory, with special attention to demands of the Enlightenment, the Industrial Revolution, and 19th Century professionalized science.

Mr. Burke, Mr. Wise

195D. Physical Sciences in the 20th Century. Prerequisite: consent of instructor. Provides a non-mathematical but nevertheless detailed look at selected physical sciences and Scientific issues: for example, the birth of quantum mechanics and relativativity; stellar evolution and cosmological theories; nuclear reactions and the role of nuclear policy; and the changing character of industrialized science.

Mr. Burke, Mr. Wise

195E. History of Physics Laboratory. (Formerly numbered 1084-1086). Prerequisite: consent of instructor only on completion of the full term. Topics courses and seminars may be repeated. This excludes only courses 200A-T, 201A-T, and any other course that is a one-quarter course.

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Graduate Courses

Admission to all graduate courses is subject to the instructor's approval and to appropriate language qualifications. For multi-term courses, credit and grades will be given only upon completion of the full term. Topics courses and seminars may be repeated. This excludes only courses 200A-T, 201A-T, and any other course that is a one-quarter course.

NOTE: For key to symbols, see page 74
246A. Colonial Period. 
Mr. Nash 
The Staff

246B. 1790-1900. 
Mr. Coben, Mr. Dallek, Mr. Weiss 

(Formerly numbered 269A-269B). Prerequisite: completion of Subject A requirement. The Staff 

249A-249B. Seminar in Jacksonian America. 
(Formerly numbered 275A-275B). Mr. Catell 

250A-250B. Seminar in United States History of the Middle Nineteenth Century. 
(Formerly numbered 272A-272B). Mr. Gatell, Mr. Howe, Mr. Robinson 

252A-252B. Seminar in Recent United States History to 1930. 
(Formerly numbered 270A-270B). Mr. Coben, Mr. Hines 

253A-253B. Seminar in Recent United States History since 1930. 
(Formerly numbered 271A-271B). Mr. Hines, Mr. Weiss 

254A-254B. Seminar in United States Social and/or Intellectual History. 
(Formerly numbered 273A-273B). Mr. Howe, Mr. Saxon 

256A-256B. Seminar in American Diplomatic History. 
(Formerly numbered 276A-276B). Mr. Dallek 

257A-257B. Seminar in United States Union History. 
(Formerly numbered 285A-285B) Mr. Hines, Mr. Monkkonen 

258A-258B. Seminar in Working Class History. 
(Formerly numbered 288A-288B) Mr. Laslett, Mr. Saxon 

259A-259B. Seminar in Social History of Women in the U.S. 
(Formerly numbered 290A-290B) Mr. Sklar 

260A-260B. Seminar in Native American History. 
(Formerly numbered 292A-292B) Mr. Morrison 

261A-261B. Seminar in Afro-American History. 
(Formerly numbered 277A-277B) Social and political history of the Afro-American including an emphasis on the development and structure of race relations in America, and racial concepts and dilemmas, black and white. Mr. Hill, Mr. Robinson 

262A-262B. Seminar in Chicano History. 
(Formerly numbered 289A-289B) Mr. Quesiones 

263A-263B. Seminar in the History of the American West. 
(Formerly numbered 274A-274B) Mr. Hundley 

264A. History of American Education. 
(Formerly numbered 225A) (Same as Education 225A). Mr. Cohen 

265A. Latin American Research Resources. 
(Formerly numbered 230A) Mr. Band 

266A-266B. Seminar in Colonial Latin American History. 
(Formerly numbered 264A-266B) Mr. Locke 

267A-267B. Seminar in Latin American History: 19th and 20th Centuries. 
(Formerly numbered 266A-266B) Mr. Burr 

268A-268B. Seminar in Recent Latin American History. 
(Formerly numbered 266E-266F). Prerequisite: 167A or 171, or concurrent enrollment in same, or equivalent. Mr. Wilkie 

(Formerly numbered 212). Required of all entering graduate students in African History. Source identification, research methodologies, historiographical traditions, historical interpretation, and approaches to teaching are examined. Strongly recommended for all History concentrators in M.A. African Studies Program. The Staff 

276. African Archaeology-Field Techniques. (1 to 2 courses). 
(Formerly numbered 221A). Prerequisite: Introductory course in archaeology and preferably an African History course. A field course on an African excavation to provide the basic skills of reconnaissance, surveying, excavation techniques, conservation and scientific sampling required by an archaeologist in Africa together with an introduction to ethnographic survey and oral data collection. Mr. Posansky 

277. African Archaeology-Data Analysis. (1 to 2 courses). 
(Formerly numbered 221B). Course 276 provides the basic methods and techniques of African archaeology. The course will involve analysis, description, illustration and interpretation of an actual archaeological and/or ethnographic collection. Mr. Posansky 

278A-278B. Seminar in African History. 
(Formerly numbered 265A-265B) The Staff 

(Formerly numbered 279A-279B-279C). Mr. Farquhar, Mr. Huang 

(Formerly numbered 281A-281B). Mr. Notelleher 

288A-288B. Seminar in South Asia. 
(Formerly numbered 280A-280B) Mr. Wolpert 

289A-289B. Seminar in Southeast Asia. 
(Formerly numbered 290A-290B) Mr. Sardessai 

291A-291B. Seminar in Jewish History. 
(Formerly numbered 268A-268B) Studies in the intellectual and social history of the Jewish people from ancient times to the modern period. Mr. Funkenstein 

293A-293B. Seminar in the History of Religions. 
(Formerly numbered 282A-282B) Mr. Bolle 

295. Theories of Scientific Change. 
(Formerly numbered 227). Prerequisite: consent of instructor. Historical and philosophical perspectives on science focusing upon the rationality of scientific change and the logic and psychology of scientific discovery and scientific style of writing. Assigned readings will be required. Not open to students who have taken Humanities 1A. This course may be taken to satisfy the Letters and Science "D" requirement (English Composition). The Staff 

297A-297B. Seminar in the History of Science. 
(Formerly numbered 256A-256B) Mr. Burke, Mr. Westman, Mr. Wise 

Individual Study and Research 

495. The Teaching of History. 
Prerequisite: graduate standing; required of all new Teaching Assistants. Consisting of lectures, readings, discussions, and practice teaching sessions within the structure of a seminar; students receive unit credit toward the qualifying examination for the Ph.D. degree. The Staff 

496. Directed Studies. 
(1 to 2 courses) The Staff 

497. Directed Studies or Graduate Examinations. 
(1 to 2 courses). Preparation for either the Master's Comprehensive Examination or the Ph.D. Qualifying Examinations. The Staff 

599. Doctoral Research and Writing. 
(1 to 2 courses). Open only to students who have passed the qualifying examination for the Ph.D. Degree. The Staff 

HUMANITIES

Arnold J. Band, Ph.D., Professor of Hebrew and Comparative Literature

Pier-Maria Pasnetti, Ph.D., Professor of Italian and Comparative Literature

Ron F. Shelden, Ph.D., Associate Professor of Scandinavian Languages and Comparative Literature

Katherine C. King, Ph.D., Assistant Professor of Classics and Comparative Literature

Richard K. Cross, Ph.D., Associate Professor of English

Kathleen L. Komar, Assistant Professor of German and Comparative Literature

Albert D. Hutter, Ph.D., Associate Professor of English

Selected masterpieces of world literature representing different types and origins. Recommended as courses to satisfy the H-requirement in the College of Letters and Science.

1A. World Literature: Antiquity to Renaissance. 
Prerequisite: Completion of Subject A requirement. Class meets three hours a week plus one section per week.

1B. World Literature: Renaissance to Modern Period. 
Prerequisite: Completion of Subject A requirement. Class meets three hours a week plus one section per week.

2A. Survey of Literature: Antiquity to the Renaissance. 
Lecture, two hours; discussion, two hours. Prerequisite: Completion of Subject A requirement. The study of selected texts from Antiquity to the Renaissance with emphasis on literary analysis and expository writing. Essays on topics related to the assigned texts will be required. Not open to students who have taken Humanities 1A. This course may be taken to satisfy the Letters and Science "D" requirement (English Composition). The Staff 

2B. Survey of Literature: Renaissance to Modern. 
Lecture, two hours, discussion, two hours. Prerequisite: Completion of Subject A requirement. The study of selected texts from the Renaissance to the Modern Period with emphasis on literary analysis and expository writing. Essays on topics related to the assigned texts will be required. Not open to students who have taken Humanities 1B. This course may be taken to satisfy the Letters and Science "D" requirement (English Composition). The Staff 

20. Asian American Literature. 
A survey of the past traditions of Asian American literature. The Staff

101. The Romantic Dilemma. 
Prerequisites: course 1A or English 1 and 2, or consent of the instructor. The theme of Romantic individualism and rebellion, pursued through literary examples of Romantic hero types (and anti-types) from Rousseau and Goethe to Dostoevsky and Hesse.

102. Satire. 
Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. The changing nature of satire as illustrated by examples of the genre from Horace and Juvenal to Ionesco and Nabokov.

104. The Twentieth Century Continental Novel: Mann and Proust. 
Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. An intensive study of The Magic Mountain and The Remembrance of Things Past as works of art and as expressions of the social and cultural dis-solution felt in early twentieth century Europe. Mr. Pasinetti

105. The Comic Spirit. 
Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Course 104, Winter Quarter 2015) Literary masterpieces both dramatic and non-dramatic, selected to demonstrate the varieties of comic expression. Undergraduates will be allowed to read all works in translation. Mr. Band

107. The Epic. 
Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. A survey of the epic as a literary form from Homer to Camoens, with analysis of individual works in relation to their contemporary societies and a comparison of the salient differences between oral and literary epics. The Staff

The Staff
106. The Faust Theme. Prerequisites: courses 1A-1B, or English 1 and 2, or consent of the instructor. The course will explore themes of man's personal development and his relationship to his environment, and the interplay of individual and collective forces. The Staff

107. The Crisis of Consciousness in Modern Literature. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 241.) A study of the consciousness of the modern writer as a response to the social and political changes of the 20th century. Mr. Cross

108. Medical Epics. Prerequisites: upper division standing and literature major. (May be concurrently scheduled with Comparative Literature 241.) The seminar will consider five medieval epic poems: Beowulf, El Cid, Chanson de Roland, Niebelungenlied, and Njalssaga. There will be two objectives: first, a broad introduction to the introduction to the subject matter and types of plays in the Renaissance. Historical and literary influences on the plays will be considered. Readings will include works of such dramatists as onto, Machiavelli, Lope de Vega, Racine, Jonson, Shakespeare. Undergraduates will be allowed to read all works in translation. Mr. Condren

145. Renaissance Drama. Prerequisites: upper division standing and literature major. (May be concurrently scheduled with Comparative Literature 245.) 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 will include works of such dramatists as Tasso, Machiavelli, Lope de Vega, Racine, Jonson, Shakespeare. Undergraduates will be allowed to read all works in translation. Mr. Pasinetti

150. The Dream in English and German Romantic Literature. Prerequisites: upper division standing and literature major. (May be concurrently scheduled with Comparative Literature 270.) A study of the use of the dream as a standard narrative technique in English and German Romantic literature. Undergraduates will be allowed to read all works in translation. Mr. Burwick

151. The Grotesque in Romantic Literature and Art. Prerequisites: upper division standing and literature major. (May be concurrently scheduled with Comparative Literature 272.) 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 abnor- mality and original sin. Undergraduates will be allowed to read all works in translation. Mr. Lehan

177. Sexual Stances in Modern Fiction. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 277.) An examination of sexual stances employed in fiction, beginning with heterosexuality in Stendhal and continuing through hyper-masculinity in Hemingway, Mailer and Lawrence, aware femininity in Woolf and Mann and gynaesex in Gide, Forster and Isher- wood. Undergraduates will be allowed to read all works in translation. The Staff

180. The Symbolist Tradition in Poetry. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 280.) A study of the symbolist tradition in English, French and German poetry. Undergraduates will be allowed to read all works in translation. Mr. Shideler

IMMUNOLOGY

The Immunology faculty is associated with several departments and is joined in a common interdisciplin- ary Center for the Health Sciences. The immunology major is designed to meet the diverse needs of undergraduate, graduate, and professional students, as well as postdoctoral fellows. An Inter- disciplinary Course Sequence in Immunology with a broad spectrum of options is devoted to the general education involved may be obtained by writing the Department of Microbiology and Immunology, UCLA Center for the Health Sciences. Students seeking a broader introduction to the subject matter may choose to meet the general requirements of any of the following four departments: Anatomy, Bac- teriology, Biology, or Microbiology and Immunology.

INDO-EUROPEAN STUDIES (INTERDEPARTMENTAL)

Raimo A. Astea, Ph.D., Professor of Indo-European and General Linguistics.

Henrik Birnbaum, Ph.D., Professor of Slavic Languages.

Marita Cimbantas, Ph.D., Professor of European Archaeology and Art.

Jaan Puvvel, Ph.D., Professor of Classics and Indo-European Studies.

Hans-Ulrich Scharfe, Ph.D., Professor of Indo-European (Department of Oriental Languages).

Hans-Peter Schmidt, Ph.D., Professor of Indo-Iranian Studies (Department of Near Eastern Languages & Cultures).

Donald J. Ward, Ph.D., Professor of Folkloristic and German.

Terence H. Wilbur, Ph.D., Professor of Germanic Linguistics and Literature.

Patrick K. Ford, Ph.D., Associate Professor of Celtic Studies (Department of English).

Graduate Degrees (C.Phil. and Ph.D.)

These degrees are offered under the jurisdiction of an interdepartmental committee.

Admission to Graduate Status

Students admitted to graduate status must have an A. A., a B. A., or a B. S. with a major in an Indo-European language field (e.g., German, Slavic, Latin, Greek, Romance Languages), or a major in Linguistics (with emphasis on historical linguistics) or a major in Comparative Literature (with concentration on Europe and Asia). If deficiencies exist in prerequisites to specific work at the graduate level, a student may be admitted conditionally and will be expected to remove these deficiencies as soon as possible upon enrollment.

NOTE: For key to symbols, see page 74
Requirements for the Doctor’s Degree

General Requirements. See Candidate in Philosophy Degree.

Foreign Language. During the first year of graduate study, the student is expected to absolve the standard reading examinations set by the Graduate Division in any two of German, French, and Russian. During the second year a similar test is to be passed in the remaining language. Unless the candidate demonstrates beforehand adequate facility in its research use.

Program of Study. The doctorate 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. In preparation for the written qualifying examinations it is normally necessary to devote at least two years of full-time graduate study to a systematic program of courses and seminars. The general requirements for all students include Vedic Sanskrit, Homeric Greek, one upper division course in Latin, basic competence in Indo-European linguistics (e.g., IES 150, 210), mythology (e.g., Classics 168), and archaeology (e.g., IES 131, 132). Additional requirements for the concentration in (1) Indo-European linguistics include an advanced seminar in comparative grammar, a minimum of five ancient Indo-European languages from different sub-branches, and additional units in courses offered by linguistics (e.g., structural linguistics, phonetics) and related departments. Additional requirements for the concentration in (2) Indo-Iranian or other specialized language area studies include an advanced seminar in comparative grammar, a minimum of two ancient Indo-European languages from different sub-branches, and additional units in language and cultural courses in the area of specialization. Additional requirements for the concentration in (3) European and related archaeology include 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. The additional units in each area of concentration are to be chosen in close consultation with the student’s advisor and/or guidance committee.

Qualifying Examinations. Before advancement to doctoral candidacy and enrollment in the C.Phil. degree, a student must pass a series of qualifying examinations, both written and oral. The written examination covers the major and minor fields and includes translation and analysis of passages from prescribed texts in ancient Indo-European languages. The oral examination, conducted by the doctoral committee, probes the student’s grasp of the entire program.

Dissertation. A dissertation must be submitted, on a subject approved by the candidate’s doctoral committee, dealing with a segment of the major field or combining the major and minor fields. The dissertation must be the result of original research and constitute a significant contribution to knowledge.

Final Examination. This oral examination, administered by the doctoral committee, covers the dissertation and its place both within the candidate’s field of emphasis and the discipline as a whole.

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 M131 or consent of the instructor. A survey of European cultures from around 3000 B.C. to the year of the destruction of the Mycenaean culture about 1200 B.C. The course covers the Aegean area and the rest of Europe. Mrs. Gimbutas

150. Introduction to Indo-European Linguistics. (Same as Linguistics M150) Prerequisite: course M150 or the equivalent. Comparative study of phonology, morphology, syntax, and lexicon. Problems in analysis and reconstruction. Mr. Anttila

159. Archaeological Techniques. European Archaeology. (Same as Anthropology M206A) Prerequisite: consent of the instructor. Credit is given only upon completion of both quarters. The full sequence may be repeated for credit. Studies in ancient European archaeological materials, and their relationship to the Near East, Western Siberia, and Central Asia. Mrs. Gimbutas

280A-280B. Seminar in Indo-European Linguistics. Prerequisite: course 210. Selected topics in Indo-European comparative grammar for advanced graduate students. Mr. Anttila

596. Directed Individual Studies. (½ to 2 courses)

The Staff

Graduate Courses

210. Indo-European Linguistics: Advanced Course. Prerequisite: course M150 or the equivalent. Comparative study of phonology, morphology, syntax, and lexicon. Problems in analysis and reconstruction. Mr. Anttila

238A-238B. European Archaeology.

597. Preparation for Doctoral Qualifying Examination. (½ to 2 courses)

The Staff

599. Research for the Dissertation. (½ to 2 courses)

The Staff

Related Courses in Other Departments


161A-161B-161C. Archaeology of Mesopotamia. 260 Seminar in Ancient Near Eastern Archaeology. Mr. Anttila

261. Practical Field Archaeology

Anthropology 109A-109B. Old Stone Age Archaeology

123A-123B. Origins of Old World Civilization

175A. Strategy of Archaeology

175B. Archaeological Research Techniques

175C. Dating Techniques in Environmental Sciences and Archaeology

175E. Laboratory Analysis in Archaeology

183. History of Archaeology

230. Analytical Methods in Archaeological Studies

232. Archaeology

286. Selected Topics in Historical Reconstruction and Archaeology

Archaeology 259. Field Work in Archaeology


166A. Greek Religion

166B. Roman Religion

168. Introduction to Comparative Mythology

180. Introduction to Classical Linguistics

230A-230B. Language in Ancient Asia Minor (Hittite, Palaeo-Luwian)

251A. Seminar in Classical Archaeology

260. Seminar in Roman Religion

268. Seminar in Comparative Mythology

English M111D. Introduction to Celtic Folklore and Mythology

M111E. Survey of Medieval Celtic Literature

211. Old English

216A-216B. Old Irish

217A-217B. Medieval Welsh

218. Celtic Linguistics

Folklore M112. Survey of Medieval Celtic Literature

M122. Introduction to Celtic Folklore and Mythology

German 230. Survey of Germanic Philology

231. Gothic

232. Old High German

233. Old Saxon

M245A. Germanic Religions and Mythology

M254B. Germanic Antiquities

252. Seminar in Historical and Comparative German Linguistics

Greek (Classics) 240A-240B. History of the Greek Language

242. Greek Dialects and Historical Grammar

243. Mycenaean Greek

Hindi (Linguistics) 171A-171B-171C. History of the Near Eastern Languages 169. Civilization of Pre-Islamic Iran

170. Religion in Ancient Iran

190A-190B. Introduction to Modern Iranian Studies

210A. 210B. The History of the Persian Language

M222A-222B. Vedic

230A-230B. Old Iranian

231A-231B. Middle Iranian

Latin (Classics) 240. History of the Latin Language

242. Italic Dialects and Latin Historical Grammar

Linguistics 100. Introduction to Linguistics

103. Introduction to General Phonetics

110. Introduction to Historical Linguistics

120A-120B. Linguistic Analysis

160. History of Linguistics through the 19th Century

202A. Linguistic Change: Phonology

202B. Linguistic Change: Morpho-syntact.

225A. Linguistic Structures: Indo-European

225E. Linguistic Structures: Indo-Aryan

270. Historical Linguistics. Seminar

Oriental Languages 160. Elementary Sanskrit

161. Intermediate Sanskrit

162. Advanced Sanskrit

165. Readings in Sanskrit

214A-214B. Pali and Prakrits

221A-221B. Introduction to Panini’s Grammar

247. Selected Readings in Sanskrit Texts

Scandinavian (Germanic Languages) 151. Elementary Old Icelandic

152. Intermediate Old Icelandic

M245. Scandinavian Mythology

Semitics (Near Eastern Languages) 140A-140B. Elementary Akkadian

141. Advanced Akkadian

220A-220B. Ugaritic

Slavic 177. Baltic Languages and Cultures

M179. Introduction to Baltic and Slavic Folklore and Mythology

201. Introduction to Old Church Slavic

202. Introduction to Comparative Slavic Linguistics
INTERDISCIPLINARY COLLOQUIA
Organized colloquia involving several disciplines are offered from time to time in conformity with faculty and student interests. They are open to all faculty members and to graduate students assigned to the colloquia by their advisers. Graduate credit is not awarded directly, but may be gained through appropriate departmental courses.

For information about the Committees in charge of these colloquia, call the secretary of the Dean of the College of Letters and Science, 825-4453.

AFRICAN STUDIES
The African Studies Center annually sponsors at least one inter-disciplinary colloquium on Africa. These colloquia focus on topics in the social sciences or humanities which cross disciplinary boundaries. Previous colloquia have dealt with such subjects as cultural pluralism, constraints on development and the adaptation of legal systems. It is the policy of the African Studies Center to organize its colloquia in such a way that they may be taken for course credit at the graduate or undergraduate level or attended as open lectures. The inter-disciplinary colloquium for academic year 1979-1980 will be on the topics of African literature and African Islam and will be held during the Fall Quarter. For further information about this and other African Studies Center inter-disciplinary colloquia, please contact the Assistant Graduate Advisor, Mrs. Patricia Eaton at 825-2944.

MATHEMATICS IN THE BEHAVIORAL SCIENCES
Meetings are announced in the UNIVERSITY CALANDER.

A colloquium on mathematics in the behavioral sciences will meet biweekly throughout the year. Papers presented and discussed in this colloquium use mathematical language to improve communication between behavioral sciences, and also between these sciences and other branches of knowledge.

ISLAMIC STUDIES (INTERDEPARTMENTAL)
For details of the undergraduate major, see Curriculum in Near Eastern Studies.

Master of Arts in Islamic Studies
The interdepartmental program for the Master of Arts in Islamic Studies is designed primarily for the student desiring to prepare for an academic career. It may, however, be found useful also for the student seeking a general education and desiring a special emphasis in this particular area or for a student whose work is independent in this area, whose career will be aided by a knowledge of the peoples, languages, and institutions. (Such a career might be centered on teaching, research, business, engineering, journalism, librarianship, or government service.) Subject to the limitations indicated below, the special course of studies is formulated for each candidate according to his experience and requirements.

Requirements for the Master's Degree

General Requirements. See Graduate Division.

Admission to the Program. A student desiring to prepare for an academic career in the field of Near Eastern languages and literatures as well as two other social sciences. Students are expected to continue taking courses beyond the intermediate level in the two Near Eastern languages of their choice and to take a proficiency examination in these languages 9 to 12 months prior to their scheduled examinations. Normally the candidate will devote the second year to courses and seminars in department affiliated with the program, these courses to be chosen by the candidate's advisory committee to be appointed by the end of the third quarter of graduate work. This committee is to consist of four faculty members who will supervise the four fields in which the candidate is to be examined. Upon completion of these courses, he will take his qualifying examinations and advance to candidacy. A final year will normally be devoted by the candidate chiefly to the preparation of his dissertation. At the beginning of his dissertation, he will take his final oral examination. During this year the candidate may satisfy the residency requirement either by taking additional seminars or by registering in Arts and Sciences 599.

The Qualifying Examination
The qualifying examination will depend on the social science concentration elected by the student. For example, his chosen field is history, he will be examined on the whole range of Near Eastern history, in one field of anthropology, sociology or political science, and in the particular Near Eastern language and literatures of his approved program. Qualifying examinations for students with different concentrations will be constructed accordingly.

Lower Division Courses
Arabic 1A-1B-1C Elementary Arabic.
Classics M70. Survey of Medieval Greek Culture. (Formerly numbered 145A. Same as History M70.)
Geography 18. Introduction to Geography: Cultural Elements.
Hebrew.*

*See Department of Near Eastern Languages and Cultures for complete listing and descriptions.

History 9D. History of the Near and Middle East.
10A-10B. A Cultural Survey of Africa.
M70. Survey of Mediaeval Greek Culture. (Same as Classics M70.)
99. Introduction to Historical Practice.
Iranian 10A-10B-10C. Persian Conversation.
Music 71K. Music of Persia.

Upper Division Courses
African Languages.**

**See Linguistics Department for complete listing and descriptions.

Ancient Near East 120A-120B-120C. Elementary Ancient Egyptian
121A-121B-121C. Intermediate Ancient Egyptian.
123A-123B. Coptic.
130. Ancient Egyptian Religion.
140A-140B. Elementary Sumerian.
145. Sumerian Literary Texts.
161A-161B-161C. Archaeology of Mesopotamia.
162. Archaeology of Palestine.

NOTE: For key to symbols, see page 74.
170. Introduction to Biblical Studies.
199. Special Studies in the Ancient Near East.

Anthropology 110. Peoples of the Middle East: Arab Culture.
122A. Comparative Society.
123A-123B. Origins of Old World Civilization.
140. Comparative Religion.
145. Introduction to Psychological Anthropology.
163. Women in Culture and Society.

Arabic 102A-102B-102C. Intermediate Arabic.
103A-103B-103C. Advanced Arabic.
110. Introduction to Islam.
111A-111B-111C. Spoken Arabic.
113A-113B-113C. Spoken Iraqi Arabic.
114A-114B-114C. Spoken Moroccan Arabic.
130A-130B-130C. Classical Arabic Texts.
140A-140B-140C. Modern Arabic Texts.
141. Modern Arabic Literature.
150A-150B. Survey of Arabic Literature in English.
199. Special Studies in Arabic.

103A-103B. Advanced Modern Armenian.
130A-130B. Elementary Classical Armenian.
150A-150B. Survey of Armenian Literature in English.
160A-160B. Armenian Literature of the 19th and 20th Centuries.
199. Special Studies in Armenian Language and Literature.

101D. Art of the Ancient Near East.
103A. Greek Art.
103B. Hellenistic Art.
104B-104C-104D. Architecture and the Minor Arts of Islam in the Middle Ages.
105A. Early Christian Art.
105B. Early Medieval Art.
105E. Byzantine Art.
114A. The Early Art of India.
115A. Advanced Indian Art.
199. Special Studies in Art.

102A-102B-102C. Advanced Berber.
120A-120B-120C. Introduction to Berber Literature.
130. The Berbers.
199. Special Studies in Berber Languages.

Classics M170A-170B. Byzantine Civilization.
(Classics M170A-170B is also known as History M122A-122B.)


French 121A. Franco-African Literature.
187. The Middle East.
188. Northern Africa.

Hebrew.*

*See Department of Near Eastern Languages and Cultures for complete listing and detailed description.

History 117. History of Ancient Egypt.
121A. The Early Middle Ages.
121B. The Later Middle Ages.
M122A-122B. Byzantine Civilization. (Same as Classics M170A-170B.)
123A-123B-123C. Byzantine History.
124A-124B. Introduction to the History of Religions.
124C. Religions of the Ancient Near East.
129. History of Northeast Africa.
130A-130B-130C. Islamic Iran.
131A-131B-131C. Armenian History.
132. The Caucasus since 1801.
133A-133B. History of North Africa from the Moslem Conquest.
134A-134B. Near and Middle East from 600 A.D. to 1500 A.D.
135A. Introduction to Islamic Cultures.
135B. Islamic Institutions and Political Ideas.
136A-136B. The Middle East: 1500 to the Present.
137A-137B. Jewish Intellectual History.
138C-138D. Focal Themes in Jewish History.
139A-139B-139C. History of the Turks.
140A-140B. History of Ancient Mesopotamia and Syria.
149A-149B-149C. History of the Balkans.
196A. Early History of India.
196B. Recent History of India and Pakistan.
197. Undergraduate Colloquia.
199. Special Studies in History.

103A-103B-103C. Advanced Persian.
140. Contemporary Persian Belle Lettres.
141. Contemporary Persian Analytical Prose.
150A-150B. Survey of Persian Literature in English.
169. Civilization of Pre-Islamic Iran.
170. Religion in Ancient Iran.
190A-190B. Introduction to Modern Iranian Studies.
199. Special Studies in Iranian.

Jewish Studies 110. Social, Cultural and Religious Institutions of the Jews.
151A-151B. Modern Jewish Literature in English.
190. Undergraduate Seminar in Jewish Studies.
199. Special Studies.


Philosophy 104. Topics in Islamic Philosophy.

Political Science 132. International Relations of the Middle East.
164. Governments and Politics in the Middle East.

102A-102B-102C. Advanced Amharic (Modern Ethiopic).
110. Neo-Aramaic.
130. Biblical Aramaic.
140A-140B. Elementary Akkadian.
141. Advanced Akkadian.
142. Akkadian Literary Texts.

Sociology 132. Population and Society in the Middle East.
133. Comparative Sociology of the Middle East.
151. Culture and Personality.

Turkish Languages 101A-101B. Elementary Turkish.
102A-102B. Intermediate Turkish.
103A-103B. Advanced Turkish.
110A-110B-110C. Old and Middle Turkish.
112A-112B-112C. Uzbek.
114A-114B-114C. Bashkir.
180A-180B-180C. Introduction to Turkish Studies.
199. Special Studies in Turkish Languages.

Graduate Courses

African Languages.*

*See Linguistics Department for complete listing and detailed description.

Ancient Near East 210. Late Egyptian.
220. Seminar in Ancient Egypt.
250. Seminar in Ancient Mesopotamia.
260. Seminar in Ancient Near Eastern Archaeology.
261. Practical Field Archaeology.
596. Directed Individual Study.
597. Examination Preparation.
599. Dissertation Research and Preparation.

Anthropology 214. Cultures of the Middle East.
265. Selected Topics in Cultures of the Middle East.

Arabic 220A-220B-220C. Islamic Texts.
240A-240B-240C. Arab Historians and Geographers.
250A-250B-250C. Seminar in Arabic Literature.
280. Structure of Classical Arabic.
596. Directed Individual Study.
597. Examination Preparation.
599. Dissertation Research and Preparation.

Archaeology 200. Archaeology Colloquium.
259. Field Work in Archaeology.
596. Individual Studies for Graduate Students.
597. Preparation for Doctoral Qualifying Examinations.

250A-250B. Seminar in Armenian Literature.
290. Seminar in Armenian Paleography.
596. Directed Individual Study.
597. Examination Preparation.
599. Dissertation Research and Preparation.

Art 210. Egyptian Art.
211. Topics in Egyptian Art.
212. Problems in Islamic Art.
213. Seminar in Problems in Islamic Art.
222A-222B. Greco-Roman Art.
223. Classical Art.
225. Medieval Art.

Classics, Greek 231A-231B-231C. Seminar in Patristic and Byzantine Literature.

221B. French-African Literature of Madagascar and Bantu Africa.
221C. French-African Literature of Berbero-Sudanese and Arabo-Islamic Africa.

Geography 287. Middle East.
ITALIAN / 209

ITALIAN

(Department Office, 340 Royce Hall)

Giovanni Cecchetti, Dottore in Lettere, Professor of Italian
Fredi Chiappelli, Dottore in Lettere, Professor of Italian and Comparative Literature
Charles Speroni, Ph.D., Emeritus Professor of Italian
Franco Betti, Ph.D., Associate Professor of Italian
Margherita Cottone-Jones, Ph.D., Dottore in Lettere, Professor of Italian and Comparative Literature
Pier-Maria Pasinetti, Ph.D., Dottore in Lettere, Professor of Italian and Comparative Literature
Mirella Cheeseman, Dottore in Lettere, Associate Professor of Italian

Preparation for the Major

Courses 1, 2, 3, 4, 5, 6, and 25, or their equivalents are required.

The Major in Italian

Required: 14 Upper Division courses out of 16 courses regularly offered once every or every other academic year. Seven of these are required; specifically Italian 101, 102A-102B-102C, 113A-113B-113C; an additional seven are to be chosen from the other nine courses ranging from 114 through 122.

Strongly recommended: three upper division courses from other departments as follows: Classics 143 or 144, History 148A or 148B, 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 3. All majors must organize their programs in consultation with department undergraduate adviser.

The Major in Italian and Special Fields

Preparation: Italian 1, 2, 3, 4, 5, and 6 or their equivalents are required, plus additional required courses associated with the field of specialization in consultation with the departmental undergraduate adviser.

Required: 14 Upper Division courses, seven of which must be in Italian. Italian 102A-102B-102C series is required, while the remaining four may be chosen from the other thirteen courses ranging from 113 through 122 as determined by the student's area of specialization. The other seven courses are to be chosen from offerings in another department, as determined by the field of specialization.

Study programs fulfilling requirements for the major in Italian and Special Fields have been developed with the Departments of Anthropology, Art, Classics (Latin), English, French, History, Linguistics, Music, Political Sciences, and Theater Arts. Students should consult the Department of Italian undergraduate adviser for requirements in the various fields of specialization.

NOTE: Students participating in the major in Italian and Special Fields will be required to plan their study lists each quarter in consultation with the departmental undergraduate adviser. Courses will be assigned in accordance with the student's needs as determined by the area of specialization pursued. When consultation with an area adviser is deemed necessary, the study list will require his approval also. In certain cases, as many as two courses (8 units) on the graduate level may be applied toward the 14-course minimum requirements.

Requirements for the Master's Degree

General Requirements. See Master's Degrees. The Department favors the Comprehensive Examination Plan, but, with departmental approval, the Thesis Plan may be followed. See Thesis or Comprehensive Examination.

Program A: Master of Arts in Italian Literature

Departmental Requirements. Thesis Plan. The preparation examination of each candidate will be the responsibility of a guidance committee composed of three members of the Department. The chairman of the committee will be the instructor under whom the candidate proposes to write his thesis. No candidate shall be appointed before a candidate has completed two full quarters of work in graduate standing in the Department.

1. Foreign Language. The same as for the Comprehensive Examination Plan.

2. Courses. Nine courses of which a minimum of six must be in the 200 series. Italian 200A-200B-200C and Italian 205B are required.

3. Thesis and Examination. The subject and general plan of investigation for the thesis must be approved by the Department and the instructor concerned before a guidance committee can be appointed.
appointed. After completion of the thesis, the candidate must pass a two-hour oral examination testing his knowledge of the field of his thesis and his 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.

Departmental Requirements. Comprehensive Examination Plan.

1. Foreign Language. A reading knowledge of one other foreign language approved by the graduate adviser may be included in the comprehensive examination and will be required: Italian 130, and French or German 120 or 210. The other eight must be distributed in the three main literary periods—Middle Ages, Renaissance, Modern (at least two 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 and 205B and Art 230 are strongly recommended.

2. Comprehensive Examination. One four-hour written examination, administered by a faculty committee appointed by the Chairman, to be given at the end of the first term of the student's final examination period of the fall and spring quarters. After the written examination, the candidates are required to take an oral examination.

Program B: Master of Arts in Italian Language

The program is designed as a terminal degree program with emphasis on the methodology of teaching the language or preparing the student to write his thesis. No committee shall be appointed before a candidate has completed two full quarters of work with graduate standing in the Department.

1. Foreign Language. A reading knowledge of one other foreign language approved by the graduate adviser, or evidence of successful completion of courses through at least level 3. This requirement must be met at least one quarter before the date of the comprehensive examination.

2. Courses. Twelve courses, of which a minimum of six must be in the 200 series, and the following are required: Italian 200A-200B-200C and Italian 205B. The other eight must be distributed in the three main literary periods—Middle Ages, Renaissance, Modern (at least two 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 and 205B and Art 230 are strongly recommended.

3. The Comprehensive Examination. One four-hour written examination, administered by a faculty committee appointed by the Chairman, to be given in the next to the last week preceding the final examination period of the fall and spring quarters. After the written examination, at the discretion of the Department, the candidates are required to take an oral examination.

Requirements for the Ph.D. Degree in Italian General Requirements. See Candidate in Philosophy Degree

Departmental Requirements.

1. Foreign Language. A student normally will pass this requirement by giving evidence of successful completion of courses through level three in at least two of the following languages: Latin, French, German, or Spanish. All language requirements must be fulfilled prior to taking the qualifying examinations.

2. Required Courses. In addition to those required for the master's degree, or equivalent: at least ten other quarter courses, of which no more than two 950 courses may apply. In addition, the student will take such courses as his guidance committee will prescribe in preparation for the qualifying examinations, such as 596 and 597.

3. Fields of Specialization. The Department recognizes the following fields of specialization, from which the student will select two: Medieval, Renaissance and Baroque, Modern.

4. Qualifying Examinations. Part I. An M.A. in Italian from UCLA is accepted as Part I of the Ph.D. qualifying examinations. Graduate students entering the Ph.D. Program in Italian with an M.A. from another University will take Part I at the end of their first graduate year at UCLA. (Note: This requirement may be waived under certain circumstances at the discretion of the Department and upon petition by the student.) This qualifying examination Part I is similar to the comprehensive examination for the M.A. (See Thesis or Comprehensive Examination.)

5. Qualifying Examinations. Part II. The qualifying examinations will consist of one four-hour written examination in the candidate's major field; one four-hour written examination covering the minor fields; a two-hour oral examination. The qualifying examinations are normally taken no later than nine quarters after the B.A. and six quarters after receiving the M.A. A summary of requirements entitled "Requirements for the Ph.D. Examination" is available in the Department on request.

6. The Dissertation. The dissertation should be presented within a period of two years after formal acceptance of the dissertation. After the acceptance of the dissertation in its final form, the candidate may be required to take an oral examination which will cover principally the field within which the dissertation falls.

Lower Division Courses

Enrollment in the Italian open language laboratory is restricted to Italian 1A, 1B, 2A, and 3. Enrollment in Italian culture sections is required of all students in Italian 2, 2A, and 3 as the fifth hour of instruction for these courses.

1. Elementary Italian—Beginning. Sections meet five hours weekly plus one hour in the laboratory. Mrs. Cottino-Jones in charge.

1A. Elementary Italian—Accelerated. (2 courses) Sections meet ten hours weekly plus two hours in the laboratory. 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 1A and 2. Mrs. Cheeseman in charge.

1B. Elementary Italian—Continued. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 1 or one year of high school Italian. Mrs. Cottino-Jones in charge.

2A. Elementary Italian Accelerated (Continued). (2 courses) Sections meet ten hours weekly plus two hours in the laboratory. Prerequisite: Italian 2 or Italian 1A, or two years of high school Italian. Designated 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 Italian 3 and Italian 4. Mrs. Cheeseman in charge.

2B. Elementary Italian—Continued. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 2 or two years of high school Italian. Mrs. Cheeseman in charge.

3. Elementary Italian—Continued. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 2 or three years of high school Italian. Mrs. Cottino-Jones in charge.

4. Intermediate Italian. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 3 or three years of high school Italian. Mrs. Cottino-Jones in charge.

5. Intermediate Italian. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 4 or four years of high school Italian. Mrs. Cheeseman in charge.

6. Intermediate Italian. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 5. Mrs. Cheeseman in charge.

8A-8B-8C. Italian Conversation. (4 course each) Sections meet two hours weekly. Prerequisite: permission of instructor. This sequence of courses is intended for students who have taken 3-5 quarter courses in the language. Each course will cover a different aspect of cultural skills in Italian. Its purpose is to help the students improve further their spoken proficiency, through constant exposure and practice of the language. Each of these courses must be repeated once for credit. Ms. Reynolds in charge.

25. Advanced Italian. Sections meet five hours weekly. Prerequisite: course 6. An advanced grammar and composition course with readings from select literary works.

Upper Division Courses

Sixteen quarter units in Italian or the equivalent are required for admission to any upper division course. Upper division courses for the Majors will be conducted in Italian and will total at least 24 units and meet three times weekly.

101. Preparation for Advanced Italian Studies. A course designed to acquaint Juniors with the research tools fundamental to the study of Italian culture. Will focus on how to find texts and colloquial material, how to utilize bibliographies, dictionaries, encyclopedias, manuals and periodicals and how to proceed in literary analysis. Mr. Chiappelli.

102A-102B-102C. The Italian Cultural Experience. A study of the cultural development of Italy conducted especially with a view to contemporary situations. 102A. From the disruption of Roman unity to feudal and communal society and culture. 102B. From Renaissance civilization to the Baroque Age. 102C. Historical and cultural issues from the Age of Enlightenment to our day. The Staff.

113A-113B. Dante’s ‘Divina Commedia’. This course focuses on the Divine Comedy. Selective readings from the text will be integrated with relevant information on scholars, classical tradition, medieval literature and poems, and the sociopolitical structure of Dante’s World. 113A. A General Introduction and Readings from Inferno. 113B. Readings from Purgatorio and Paradiso. Mr. Cecchetti, Mr. Masciandaro.

114A-114B. Italian Literature of the Middle Ages. Covers three hundred years from “Canto Novo,” Dante’s minor works, Petrarch and Boccaccio. Mrs. Cottino-Jones, Mr. Tuttle.


119. Italian Literature on the 19th Century. This course surveys the Romantic Age as it expresses values and national aspirations of 19th Century Italy. Emphasis is placed on the innovative forms of expression in the works of writers like Galilei, Magalotti, and on the socio-historical novel of the period, including Marivaux, Tassoni, and the works of Leopardi and Manzoni.

120. Italian Literature of the Twentieth Century. Following a brief introduction to Italian literature after unification of the country, the course will concentrate on selected works written in the period of the Risorgimento. Classes meet three hours weekly. The Staff

121. Italian Cinema. A comparative study of the development of Italian cinema and its relationship with Italian literature. Emphasis is placed on the innovative forms of expression in the works of directors like Pasinetti and Pasolini.

122. The Italian Theater. The course concentrates on what is alive today (read and performed) in the world of the Italian theater. Classes meet three hours weekly. The Staff

130. Advanced Grammar and Composition (Teaching). The teaching of Italian idiomatic Structure: Grammar. A study in depth of the idiomatic forms of expression. Texts will include literary works, screenplays, and works on literary history and film theory. Mr. Pasinetti

131. Reading and Reciting. Prerequisite: consent of instructor. The teaching of Italian literature. Emphasis on the role of the language. Emphasis on diction, interpretation and performance of one-act plays as vehicles for perfection of pronunciation, comprehension and fluency. Mr. Chiappelli

140. Italian Literature to the Baroque Period. A study of selected works of the period, including Dante, Petrarch, Boccaccio, Ariosto, Machiavelli, Castiglione, Tasso, Bruno, Galileo, Marino. Classes meet three hours weekly. The Staff

50A. Italian Literature to the Baroque Period. A study of selected works of the period, including Dante, Petrarch, Boccaccio, Ariosto, Machiavelli, Castiglione, Tasso, Bruno, Galileo, Marino. Classes meet three hours weekly. Mr. Pasinetti

50B. Italian Literature from 1700 to the Present. A study of selected works by the major writers of the period, including Vico, Parini, Alfieri, Foscolo, Leopardi, Manzoni, Verga, Pirandello, Svevo, Moravia, Ungaretti, Montale. The Staff

105. Tradition and Innovation in Italian Culture. Italy's basic social structures and cultural institutions are delineated through their historical development and as they are manifest in the stresses to which the industrializing state currently is subject. Mr. Tuttle

110A-110B. The Divine Comedy of English. Class meets three hours weekly. The Staff

114. Italian Literature of the Fourteenth Century. Classes meet three hours weekly. Mr. Betti

115. Italian Literature of the Fifteenth Century. Classes meet three hours weekly. Mr. Betti

121A-121B. Italian Literature of the Sixteenth Century. Classes meet three hours weekly. Mr. Betti

121C. The Commedia and the Monarchia. Mr. Chiappelli

121D. Petrarch. Mr. Chiappelli

121E. The Decameron. Mrs. Cottino-Jones

121F. Boccaccio's Other Works. Mrs. Cottino-Jones

121G. Sacchetti and Other Prose Writers. Mrs. Cottino-Jones

121H-121L. The Literature of the Nineteenth Century. Classes meet three hours weekly. Mr. Betti

127A. The Age of Lorenzo de'Medici and Poliziano. Mr. Betti

127B. Commedia dell'arte and the Theatre. Mrs. Cottino-Jones

127C. Marino and Marinisti. Mrs. Cottino-Jones

128A-128B. The Italian Literature of the Eighteenth Century. Classes meet three hours weekly. Mr. Betti

128A. The Prose from Vico to Cesaretti. Mr. Betti

128B. Essayists and Autobiographical Writers. Mr. Betti

128C. The Theater. Especially Metastasio, Goldoni, C. Gozzi. Mr. Pasinetti

128D. Parini and the Poets of Arcadia. Mr. Pasinetti

128E. Alfieri. Mr. Betti

129A-129B. The Italian Literature of the Nineteenth Century. Classes meet three hours weekly. Mr. Betti

129A. Foscolo. Mr. Chiappelli

129B. Leopardi. Mr. Cecchetti

129C. Manzoni. Mr. Pasinetti

129D. Trends in Fiction before Verga. Mr. Betti

129E. Verga. Mr. Cecchetti

129F. Italian Literature at the Turn of the Century. Mr. Pasinetti

NOTE: For key to symbols, see page 74
596. Directed Individual Studies. (1 to 2 courses) The Staff
597. Preparation for Comprehensive Examinations. (1 to 2 courses) The Staff
599. Doctoral Research and Writing. (1 to 2 courses) The Staff

JOURNALISM
(Department Office, 371 Kinsey)
Walter Wilcox, Ph.D., Professor of Journalism
William W. Johnson, M.A., Emeritus Professor of Journalism.

• James H. Howard, M.A., Lecturer in Journalism (Chairman of the Department)
  John T. Shillitoe, B.A., Lecturer in Journalism.
  Laurence I. Pett, B.A., Lecturer in Journalism.

Undergraduate Courses
The Department offers undergraduate courses, primarily upper division courses.


101A. Reporting. Fundamentals of the news communication process.
101B. Photojournalism. Basic graphic arts illustration, and photojournalism for the mass media.

112. The History of American Journalism. History of the news media and their ancillary agencies with special attention to the news and information function. Course emphasizes historical context, including the main forces in development of the free press and social responsibility concepts.

180. Radio and Television News. Lecture, two hours; laboratory, three hours. Prerequisite: course 2 or equivalent. Fundamentals of broadcast news; FCC regulations; network, station, and news agency problems and policies. Laboratory; exercises and experiments in preparing the newscast, with emphasis on television.

181. Reporting of Public Affairs. Prerequisite: course 2 or equivalent. Reporting governmental functions with emphasis upon judicial, legislative, and administrative procedures at the city and county level.

182A. Magazine Writing. Analysis of the general magazine. Writing non-fiction articles; research, style and structure.

182B. Magazine Writing. Continuation of course 182A. (By permission only.)

190. Foreign Press. Analysis of the four theories of the press; study of the flow of international news; analysis of the foreign media including the news industry. Course emphasizes critical study of the news media and their ancillary agencies with special attention to the news and information function. Course emphasizes historical context, including the main forces in development of the free press and social responsibility concepts.

191. The Foreign Press. Analysis of the four theories of the press; study of the flow of international news; analysis of the foreign media including the news industry. Course emphasizes historical context, including the main forces in development of the free press and social responsibility concepts. Section A: morning; Section B: evening. Course emphasizes critical study of the news media and their ancillary agencies with special attention to the news and information function. Course emphasizes historical context, including the main forces in development of the free press and social responsibility concepts.

Preparing for the Major
Required courses in the Department: 12, 14.
Required courses outside the Department: Biology 4B, Chemistry 11A, Physics 3A and one introductory course in a foreign language. Students intending to major in Kinesiology must confer with the department counselor before enrollment in classes. Advising appointments can be made in the Student Affairs Office, MG 206.

Preparation for the Major
Required courses in the Department: 12, 14.
Required courses outside the Department: Biology 4B, Chemistry 11A, Physics 3A and one introductory course in a foreign language. Students intending to major in Kinesiology must confer with the department counselor before enrollment in classes. Advising appointments can be made in the Student Affairs Office, MG 206.

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Required courses in the Department: 12, 14.
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Preparation for the Major
Required courses in the Department: 12, 14.
Required courses outside the Department: Biology 4B, Chemistry 11A, Physics 3A and one introductory course in a foreign language. Students intending to major in Kinesiology must confer with the department counselor before enrollment in classes. Advising appointments can be made in the Student Affairs Office, MG 206.
Requirements of the Major

Required courses in the Department: 110, 111, 130, 131, 150, 151

Upper Division Electives: A total of nine electives (36 units) are required. Six courses (24 units) must be taken in Kinesiology with at least one course in each content area and no more than 4 courses in any one content area. The following courses are offered by the Department:

134, 134A, 134B, 137, 139, 140, 145; Area III - 134C, 160, 165, 170A, 170B, 175, 178. Selection of area electives establishes the student's area of concentration within Kinesiology. Courses not assigned to an area (105, 106, 191, 199, 199F) may be selected, but 300 and 400 level courses may not be used to satisfy the elective requirement for the major.

Two extra-departmental electives, related to student's area of concentration, are required. A list of approved courses is available in the Student Affairs Office, MG 206.

The ninth elective may be selected either from any upper division elective in the Department or from the approved extra-departmental list.

A "C" average must be maintained in all upper division courses taken in the department. If the student fails to achieve a "C" average, dismissal from the major will be recommended. All upper division courses required for the major (including extra-departmental requirements) must be taken for a letter grade.

Each major should consult the departmental counselor on requirements for admission to candidacy. Appointments can be made through the Student Affairs Office, MG 206.

Honors in Kinesiology

Honors in Kinesiology are intended to recognize superior academic achievement and to encourage undergraduate students with distinguished scholastic records to conduct independent research. Requirements for admission to candidacy are the same as those required for admission to the Honors Program in the College of Letters and Science. Honors in Kinesiology are awarded at graduation to honor students who have achieved 3.5 or better for their upper division Kinesiology courses, at least 9 of which must be completed at UCLA. Highest Honors in Kinesiology are awarded at graduation to honor students who have achieved at least 3.7 in upper division Kinesiology courses. Inquiries concerning Honors in Kinesiology should be directed to the Student Affairs Office, MG 206.

Departmental Scholar Program

Under the Departmental Scholar Program, honor students in Kinesiology (juniors and seniors) are permitted to pursue bachelor's and master's degree programs simultaneously. The Departmental Scholar must be provisionally admitted to the Graduate Division, and no course can be used to fulfill requirements for both degrees. The two degrees may be awarded simultaneously, but this is not a requirement of the program. The master's degree can be completed for bachelor's degree has been awarded. Inquiries concerning the Departmental Scholar Program should be directed to the Student Affairs Office, MG 206.

Graduate Study

The Department offers programs of study and research leading to the M.S. and Ph.D. degrees in Kinesiology within the three content areas of the Department's instructional and research programs (see Areas I, II and III below). The general University requirements for the M.S. and Ph.D. degrees are described in the sections on these degrees of this catalog. The M.S. makes use of the Thesis or Comprehensive Examination plans. A student is not required to earn the M.S. degree before undertaking work for the Ph.D. degree.

Students seeking admission to graduate status in the Department will be expected to meet the general requirements of the Graduate Division for admission, as described under "In Graduate Status". Applicants are expected to have an undergraduate degree in Kinesiology or a related field with equivalent course work. A University application for graduate study, a clear and cogent statement of purpose and three letters of recommendation are required of all applicants.

Students who plan to apply for admissions to this department are encouraged to come to the campus for a personal interview with the Dean of the Graduate Affairs Committee, Department of Kinesiology.

Lower Division Courses

12. Introduction to Human Physiology. (1½ courses) Lecture, five hours; laboratory, three hours. Prerequisites: course 14, Biology 1A, Chemistry 11A. An introduction to human physiology. Mr. Roy

13. Introduction to Human Anatomy. (1½ courses) Lecture, five hours; laboratory, three hours. Prerequisites: Biology 1A or 2. A structural survey of the human body including the skeletal, muscular, and nervous systems. Special emphasis is placed on relating these body structures to human movement capabilities. Laboratory includes examination of human cadaver specimens. Course is not intended for Kinesiology majors; combination of Kinesiology 13 and 14 will be equivalent to nine units. The Staff (Sp)

14. Human Neuromuscular Anatomy. (1½ courses) Lecture, four hours; laboratory, four hours. Prerequisites: Biology 1A. A through study of the skeletal, articular, muscular, and nervous systems. Special emphasis is placed on relating these body structures to human movement capabilities. Laboratory includes examination of prosected human cadaver specimens. The Staff (F,W)

16. Human Motor Performance. Lecture, three hours; laboratory, two hours. Basic psychoso-cial concepts in the study of human movement. Mr. Keogh

Upper Division Courses

105. Movement Taxonomy and Composition. Lecture, three hours; laboratory, two hours. Prerequisite: course 14. Clarification and organization of movement concepts through the study of definition, classification, division and composition of human movement. Ms. Brown

106. Theories of Kinesiology. A study of ethical, logical and aesthetic valuing in human movement and human development with special consideration given to traditional and modern approaches. Area I: Biochemical, morphological, and general physiological adaptations of man to exercise and environmental conditions

110. Exercise Physiology. Prerequisites: courses 12, 14. Chemistry 11A, Biology 1A. Response of organs and systems to chronic and acute exercise. Mr. Eddy

111. Laboratory in Exercise Physiology. (4 course) Must be taken concurrently with course 110. Mr. Edgerton, Mr. Gardner

115. Aquatic Kinesiology. Lecture, three hours; laboratory, two hours. Prerequisites: course 12 and 14 or consent of instructor. A study of man's adaptation and behavior in aquatic environments. Mr. Egstrom

117. Conditioning for Maximum Performance. Prerequisites: courses 110, 111, 130, 131, or consent of instructor. Study of factors and conditions accelerating and retarding levels of performance and work under various physiological and environmental conditions. Mr. Egstrom, Mr. Gardner, Mr. Morehouse

118. Cellular Dynamics of Exercise. Prerequisites: Kinesiology 110, 111, Chemistry 11C, 11CL or consent of instructor. Cellular responses to acute and chronic exercise. Mr. Edgerton

119. Laboratory Experimentation in Exercise and Biomechanics of Human Movement. Prerequisites: courses 110, 111, 118, or consent of instructor. Assessment of biochemical properties of muscle and blood, histochemistry of muscle, physiological properties of muscular and cardiorespiratory systems during exercise.

Mr. Edgerton, Mr. Roy

Area II: Description of human movement and the neuromuscular and biomechanical determinants of motor performance

130. Biomechanics of Human Movement. Prerequisites: courses 12 and 14; Physics 3A. Kinematic and kinetic principles underlying human movement focusing on the human neuromuscular and skeletal systems. Mr. Gregor, Mr. Zernicke

131. Laboratory in Biomechanics of Human Movement. (4 course) Must be taken concurrently with course 130. Mr. Gregor, Mr. Zernicke

132. Biomechanics of Musculoskeletal Injury. Prerequisites: courses 130-131 or the equivalent 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 processes, normal physiology of repair mechanisms are analyzed in conjunction with musculoskeletal injuries and effects of exercise and physical activity. Mr. Zernicke

134A. Electromyographic Assessment. Lecture, three hours; laboratory, one hour. Prerequisites: courses 130, 131. Techniques of electromyographic analysis combining theoretical aspects with laboratory experiences. Mr. Gregor

134B. Cineangiographic Assessment. Lecture, three hours; laboratory, two hours. Prerequisites: course 130, 131. High-speed motion picture films of human movement; techniques of data collection, analysis, and interpretation. The Staff

14C. Performance Assessment. Lecture, three hours; laboratory, two hours. Prerequisites: course 150, 151. Critical analysis of theoretical and practical aspects of assessment techniques as well as individual and group evaluation procedures. The Staff

137. Therapeutic Exercise. Prerequisite: courses 110, 111, 130, 131. The role of exercise in the improvement of movement in physically handicapped individuals. Care and prevention of athletic injuries. Mr. Gardner, Mr. Morehouse

139. Dissection Anatomy. Lecture, two hours; laboratory, six hours. Prerequisites: courses 14, 130-131, and consent of the instructor. Study and dissection of upper and lower extremity human cadavers; dissection of thorax and abdomen limited to musculoskeletal and neuromuscular supply; students will be demonstration prosecutors for course 113. The Staff

140. Mechanisms of Neuromuscular Control. Lecture, three hours; laboratory, two hours. Prerequisites: courses 12, 14, and Psychology 15 or 115. Neuromuscular mechanisms for the control of somatic muscles are covered in detail including skeletal, autonomic and motor system; more proprioceptive feedback necessary for motor control. Laboratory emphasizes neuroanatomy. Ms. Smith


Mr. V. Hunt

Area III: Development, acquisition and modification of human motor performance

150. Motor Performance and Skill Acquisition. Prerequisites: course 16 and an introductory course in statistics. An examination of motor performance and motor learning and the influence of selected psychological variables upon human movement. Ms. Shapiro

151. Laboratory in Motor Performance and Skill Acquisition. (4 course) Must be taken concurrently with course 150. Ms. Shapiro

NOTE: For key to symbols, see page 74.
160. Human Movement Development. Prerequisite: course 16. Movement development throughout life with emphasis upon individual and societal determinants. Mr. Keogh

165. Perceptual Motor Education. Prerequisites: courses 150, 151, and 160 recommended. Movement problems in children with special needs and the role of physical activity and play in their rehabilitation. Mr. Cratty


175. Sports in American Life. The national and international roles and interrelationships of American sports emphasizing socio-cultural values, changing patterns, and current trends and issues. The Staff

178. Group Dynamics in Sport. Lecture, three hours; laboratory, two hours. Prerequisites: 150-151 or consent of instructor. Examination of group dynamics in sport. Topics include group productivity, group leadership, group conflict, and transport in exercise and training and in some diseased conditions. Mr. Barnard, Mr. Gardner

210B. Neuromuscular and Metabolic Factors. Prerequisite: course 118. Fundamental aspects of skeletal muscle contraction and metabolic demands under various exercise and training conditions, including the role of neural mechanisms and neuromuscular adaptation involved in inducing specific training effects on skeletal muscle, liver, kidney, gastrointestinal tract and brain. Mr. Edgerton

210C. Environmental Factors. Prerequisite: course 210B. Neural and psychological aspects of exercising and competition as a function of altitude and underwater diving as well as temperature factors as they affect work performance; adaptation to unusual environments. Mr. Egstrom

211. Advanced Exercise Cardiovascular Physiology. Lecture, two hours; laboratory, three hours. Prerequisites: course 210A and Physiology 101. Attention is focused on cardiovascular adaptations to acute exercise as well as adaptations associated with regular exercise training. Mr. Barnard

221. Underwater Kinesiology. Prerequisites: courses 115 and 130 or consent of instructor. Biomechanical, physiological, methodological and behavioral limitations to underwater activities. Mr. Egstrom

230A. Muscle Dynamics. Prerequisites: courses 130, 131; 134A recommended. Integrated study of the anatomy and physiology of the major muscle groups; surface potentials and surface electromyographic signals and their relationships to muscular activity. Mr. Gregor, Mr. Zernicke

230B. Musculoskeletal Mechanics. Prerequisites: courses 130, 131, Mathematics 1A, 1B, 38. Mechanical parameters of the moving human musculoskeletal system including the use of cinematographic, force platform and digital computer techniques; topics include physical properties of bone and fibrous connective tissues, biosistatics, biodynamics, and empirical data modeling. Mr. Gregor, Mr. Zernicke

237. Advanced Kinesitherapy. Prerequisite: course 137 or consent of instructor. Selected studies in therapeutic exercises. Mr. Morehouse

240. Neural Systems for Motor Control. Prerequisites: course 140 and Psychology 115 (or equivalent). Proprioception, the satellite and fusimotor systems and their interaction; control by spinal reflexes and supraspinal centers including the cerebellum and basal ganglia and cerebral cortices. Ms. Smith

250. Behavioral Approach to Motor Control. Prerequisites: course 150 and consent of instructor. Information processing approach to skill acquisition and performance. Particular emphasis on current theories of motor control from the behavioral literature. Ms. Shapiro

255. Social Processes and Motor Behavior. Prerequisite: course 178 or consent of instructor. Influence of social psychological processes on motor behavior; attention to the influence of situational variables in the environment, and the interaction between the internal and external factors on motor behavior. Ms. Smith

256. Movement Behavior. Qualitative nature of motor behavior explored from the perspectives of perception and emotional organization, and body image, time, space and weight concepts. Ms. Hunt

260. Motor Development. Prerequisite: course 160. Critical analysis of behavioral approaches in the formulation of motor development theory. Mr. Keogh

262. Movement Disorders. Prerequisite: 160 or 165 or consent of instructor. Current research in developmental and behavioral aspects of movement disorders. Topics include early identification and interrelated perceptual and cognitive relationships and evaluation of movement training programs. Mr. Cratty, Mr. Keogh

1270. Social Correlates of Human Movement. A critical analysis of the social relationships between sports, games, exercise and other forms of man's movement patterns and the cultural and social structures of the American society. The Staff


276. Play Theory. A critical analysis of theoretical propositions explaining the phenomenon of play. Ms. Arnold

280A-280P. Advanced Topics in Kinesiology. The subject matter of these courses will be in a field of specialization in which the student is interested. Mr. Barnard has developed special proficiency in this area of research.

280B. Human Energy Fields. Ms. Hunt

280E. Psychology and the Athlete. Prerequisites: course 250 and consent of instructor. Mr. Cratty

280H. Physical Working Capacity. Prerequisites: course 118 and consent of instructor.

280J. Seminar in Exercise Biology. Prerequisites: course 210A or the equivalent and consent of the instructor. Student study, presentation and discussion of topics dealing with biochemical and/or physiological aspects of specific exercise. Mr. Barnard, Mr. Edgerston, Mr. Gardner

280K. Sport Competition and Psycho-Social Development. Prerequisite: course 225 and consent of the instructor. Current studies to the approach of competition in sport as a social evaluation process. Ms. Hunt

280L. Metabolism of Skeletal Muscle. Prerequisite: course 118 or consent of instructor. Muscle energetics and metabolism. The Staff

280P. Modeling of the Human Musculoskeletal System. Prerequisite: consent of instructor and graduate status. Comparative analysis of specific and general mathematical models of the human musculoskeletal system. Examination of three-dimensional kinematic and kinetic analyses, including matrix methods and optimization techniques. Mr. Gregor, Mr. Zernicke

285. Research in Human Movement. Application of research designs to problems in human movement. The Staff

295A-295B. Seminars in Neuromotor Control. Prerequisites: courses 140 and 160 or either 210B or 240. Selected topics on the muscular and neural determinants of movement behavior. Mr. Edgerston, Mr. Smith

Professional Courses

1402. Administration of Physical Education. Principles and policies applied to the unique organizational problems of physical education. Mr. Snyder

430. Sports Medicine. Prerequisites: course 130; 132 recommended. A survey of advances in athletic training, etiology and diagnostic techniques relating to rehabilitation and protection from injury in sport; professional and legal aspects of sports medicine. Mr. Gregor, Mr. Morehouse, Mr. Zernicke

495. Internship Practicum for Teaching Assistants in Kinesiology. (1-2 courses) Prerequisite: consent of instructor. Supervised practical experience in teaching laboratory courses in Kinesiology; material preparation and use of teaching aids. Course required for all teaching assistants. Units do not apply toward degree objectives. Grading S/U basis only. Ms. Arnold

Individual Study and Research

501. Cooperative Program. (1 to 2 courses) Prerequisites: approval of UCLA Graduate adviser and Graduate Dean. Approval of host campus instruc-
tor, Department Chair and Graduate Dean. The course is used to record the enrolment of courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

95A-95ZZ. Individual Studies for Graduate Students. (6 to 9 courses) Prerequisites: course petition signed by the faculty sponsor, and Graduate Affairs Committee Chair shall be submitted prior to the second week of class. The course will be identified by a two-letter code using the initial of the department (6 or 7 course number, depending on the department for code). A total of 8 units may be taken for credit; only one course (4 units) will count toward the minimum graduate course requirement for the M.S. in Kinesiology. Offered on a letter graded basis only.

The Staff

95A-95ZZ. Preparation for Master's Comprehensive Examination. (6 to 9 courses) To be arranged with the faculty member serving as the student’s comprehensive examination chair. The course will be identified by a two-letter code using the faculty’s initials (see department for code). Course 95A may not be used to fulfill any course requirements for the Master’s degree. Graded on a satisfactory/unsatisfactory basis.

The Staff

95A-95ZZ. Research for the Preparation of the Master’s Thesis. (6 to 12 courses) Each member of the faculty supervises research of master’s students and holds research group meetings, seminars, and discussions with students that take his master’s research course which is identified by the same two-letter code used to identify the 95A code. Course 95A may not be used to fulfill any of the course requirements for the master’s degree. Graded on a satisfactory/unsatisfactory basis.

The Staff

LATIN AMERICAN STUDIES (INTERDEPARTMENTAL) (Office, 10347 Bunche Hall) Shirley L. Arora, Ph.D., Professor of Spanish. Charles F. Bennett, Ph.D., Professor of Geography. C. Rainer Berger, Ph.D., Professor of Anthropology. William O. Dobyns, Ph.D., Professor of Linguistics and Anthropology.

Henry J. Braun, Ph.D., Professor of Geography. E. Bradford Burns, Ph.D., Professor of History. Robert Burns, S.J., Ph.D., Professor of History. Robert G. Burdick, Ph.D., Professor of History. David E. Eshleman, Ph.D., Professor of Peace and Conflict Studies. Howard Freeman, Ph.D., Professor of Sociology. John Friedmann, Ph.D., Professor of Planning. Edward Gonzalez, Ph.D., Associate Professor of Political Science.

Claude L. Hulet, Ph.D., Professor of Spanish and Portuguese.

Derrick B. Jelliffe, M.D., D.T.M. & H., F.R.C.P., Professor of Public Health and Professor of Tropical Medicine.

Kenneth L. Karst, A.B., LL.B., Professor of Law. James Lackhart, Ph.D., Professor of History. Clement W. Meighan, Ph.D., Professor of Anthropology.

Henry B. Nicholson, Ph.D., Professor of Anthropology.

Carlos P. Otero, Ph.D., Professor of Spanish and Romance Languages and Literatures.

Harvey S. Perloff, Ph.D., Professor of Planning.

Stanley L. Roche, Ph.D., Professor of Spanish.

Milton I. Roemer, M.D., M.P.H., Professor of Public Health and Professor of Medicine.

Allen B. Rosenblum, Ph.D., Professor of Engineering and Applied Science.

Jonathan D. Sawyer, Ph.D., Professor of Geography.

C. A. Schneider, Ph.D., Professor of Botany.

Edward W. Soja, Ph.D., Professor of Planning.

David Stea, Ph.D., Professor of Architectural Design and Urban Planning.

Robert M. Stevenson, Ph.D., Professor of Music.

Marie E. Swendsen, Ph.D., Professor of Nutrition and Biomedical Chemistry.

C. R. Vasanthanathan, Ph.D., Professor of Electrical Sciences and Engineering.

Johannes Wilbert, Ph.D., Professor of Anthropology.

James W. Wilkie, Ph.D., Professor of History.

Telford H. Work, M.D., M.P.H., D.T.M. & H., Professor of Infectious and Tropical Diseases, Professor of Microbiology and Immunology and Professor of Preventive and Social Medicine.

Ralph L. Beals, Ph.D., Professor of Anthropology.

John A. Crow, Ph.D., Emeritus Professor of Spanish.

Gladys A. Emerson, Ph.D., Emeritus Professor of Nutrition.

John E. Englefield, Ph.D., Emeritus Professor of Spanish.

Mildred E. Mathis, Ph.D., Emeritus Professor of Botany.

Anita Sanchez-Reder, Ph.D., Emeritus Professor of Spanish.

Ivan Affes, Ph.D., Emeritus Professor of Mathematical Economics.

James E. Bruno, Ph.D., Associate Professor of Education.

John R. Dominguez, Ph.D., Associate Professor of Business Management.

Christopher Donnan, Ph.D., Associate Professor of Anthropology.

Pierre-Michel Fontaine, Ph.D., Acting Associate Professor of Political Science.

John Hawkins, Ph.D., Associate Professor of Education.

Thomas J. H. Heuvel, Ph.D., Professor of Mathematical Economics.

Allan Johnson, Ph.D., Associate Professor of Anthropology.

Thomas J. La Bete, Ph.D., Associate Professor of Education.

O. E. Lopez, Ph.D., D.T.M. & H., Associate Professor of Sociology.

Gerardo Luzuriaga, Ph.D., Associate Professor of Spanish.

Alfred K. Neumann, M.D., M.P.H., Associate Professor of Public Health.

Raymond Neutra, Ph.D., Associate Professor of Epidemiology.

Susan Kautman Purcell, Ph.D., Associate Professor of Political Science.

Richard M. Reeve, Ph.D., Associate Professor of Spanish.

James W. Trent, Ph.D., Associate Professor of Education.

Beatriz Aitas, Ph.D., Assistant Professor of Education.

Felita El Guini, Ph.D., Assistant Professor of Anthropology.

Ralph Frenich, Ph.D., Assistant Professor of Epidemiology.

Robert Hill, Ph.D., Assistant Professor of History.

Bruce M. Hudson, Ph.D., Assistant Professor of Planning.

Cecilia Klein, Ph.D., Assistant Professor of Art.

Alfred E. Osborne, Ph.D., Assistant Professor of Management.

David O. Ott, Ph.D., Assistant Professor of Education and Sociology.

Susan Platt, Ph.D., Assistant Professor of Spanish and Portuguese.

Antonio Quisoci, Ph.D., Assistant Professor of Spanish and Portuguese.

Sara Scrimshaw, Ph.D., Assistant Professor of Public Health.

A. John Skirius, Ph.D., Associate Professor of Spanish.

Conception Valadez, Ph.D., Assistant Professor of Education.

Beatriz Arias, Ph.D., Assistant Professor of Spanish and Portuguese.

Roldano Arriaga, M.A., M.P.H., Professor of Epidemiology.

Jose M. Cruz-Salvadores, M.A., Associate Professor of Spanish.

Eduardo Muyano Diaz, Ph.D., Lecturer in Spanish and Portuguese.

Kathleen B. Fischer, Ph.D., Lecturer in Education and Latin American Studies.

Teshome Gabriel, Lecturer in Theater Arts.

Karen Kauzlaric, Ph.D., Lecturer in Art.

Ludwig Lauerhass, Jr., Ph.D., Lecturer in History.

Peter R. Nohemsk, L.B., Lecturer in International and Comparative Management.

Jorge Preloran, Ph.D., Lecturer in Art.

Emilio Paludo-Huizar, Lecturer in Spanish.

George L. Voigt, J.D., Lecturer in Spanish.

The Latin American Studies program, coordinated through UCLA's NDEA Latin American Studies Center, offers the Bachelor of Arts and Master of Arts degrees. Special aspects include articulated programs with professional masters and doctoral degrees.

Committee in charge of Latin American Studies: Graduate, Susan Kaufman Purcell, Political Science (Chairperson); Bradford Burns, History; Richard M. Reeve, Spanish and Portuguese; Charlotte Crabtree, Education; Howard Freeman, Sociology; John Friedmann, Urban Planning; Susan Scrimshaw, Public Health. Undergraduate, James Lackhart, History (Chairperson); Chebur Arbor, Geography; William O. Bright, Linguistics; John Skirius, Spanish and Portuguese; Carlos Velev, Anthropology; Cecilia Klein, Art.

The Bachelor's Degree in Latin American Studies Undergraduate studies of the Latin American region are designed to serve the needs of (a) students preparing to teach social science or language; and (b) students preparing to study Latin American culture or history in Latin American universities; or (c) to conduct research; or (d) complete an internship in an international or development agency. Full credit will be granted according to the individual programs arranged in consultation with the undergraduate advisor. Proposals must be presented in writing to the Interdepartmental Committee.

Departmental Scholar Program. Exceptionally promising undergraduate students may be nominated as Departmental Scholars to pursue bachelor's and master's degrees simultaneously.

The Master's Degree in Latin American Studies For students who wish to pursue graduate study in Latin American Studies, the equivalent constitutes the normal basis for admission. Applicants with Latin American Field experience or special methodological skills will be given special consideration.

NOTE: For key to symbols, see page 74
admission to graduate status, the Latin American Studies program requires three letters of recommendation and a curriculum vitae.

The program requires Graduate Record Examinations. Information and applications for the Graduate Record Examination may be obtained by writing to the Educational Testing Service, 1947 Center Street, Berkeley, California 94704 or, for applicants east of the Rocky Mountain states, the Educational Testing Service, Box 955, Princeton, New Jersey, 08540.

Students may be admitted with subject deficiencies, but such deficiencies will have to be made up by taking courses in addition to requirements for an advanced degree program.

Plans: The comprehensive examination plan is followed, but in exceptional cases a student may petition to write a thesis. Both plans are designed to facilitate admission to Ph.D. programs.

Comprehensive Examination Plan: A minimum of nine courses is required, among three disciplines either on a 4-3-2 or 3-3-3 basis (including five graduate courses, with at least one taken in each discipline). Students prepare for the examination by developing a graduate research paper in consultation with a professor in two of the three disciplines, one professor of whom shall be the chairman under whose direction the research is prepared, preferably in a seminar, topics course, or certain Special Courses. These two professors form the examining committee charged with testing the candidate's ability to integrate knowledge across disciplinary boundaries; a professor representing the third discipline will attend the examination mainly in the capacity of observer. In determining the result of the examination the two professors will take into consideration the candidates' research paper; and (b) oral defense of the investigation and its implications, as well as (c) the rationale and record of course work for the M.A. For more complete information regarding the M.A. (including honors program) consult a copy of the "Guidelines for the Comprehensive Examination," available at the Latin American Studies Office.

Thesis Plan: A minimum of ten courses is required as follows: (a) Four courses including three graduate courses) in one discipline, which constitutes the area of core concentration; (b) three courses in two minor disciplines (including one graduate course in each field); An interdisciplinary thesis committee directed by a faculty member in the core area, with approval also required by one professor in each minor field. For more information consult the "M.A. Thesis Plan Courses Available" available at the Latin American Studies Office.

Articulated Degree Programs: The graduate program in Latin American Studies offers several articulated degree programs wherein a student may earn the M.A. in Latin American Studies and a professional degree in (1) Public Health, (2) Library Science, (3) Management. Admission to the professional degree program is not automatic. Students complete the M.A. in Latin American Studies by selecting a professional degree from their three areas of specialization. Additional information on the articulated degree programs is available from the Latin American Studies Office.

Professional Fields: In addition to the articulated degree programs, graduate students in Latin American Studies may select one of three areas of specialization, courses in education, urban planning, and law as well as in those professions with which articulated degrees are possible.

Field Requirements: At least one of the required three disciplines is taken in the social sciences (Anthropology, Economics, Geography, History, Political Science or Sociology).

Language Requirements: Proficiency equivalent to Spanish 25 and Portuguese 3 or Portuguese 25 and Spanish 5. In lieu of Portuguese 1-3 students may take Portuguese 102A-102B which is designed for persons with a background in Spanish. Because these courses do not count toward the M.A. degree, students are encouraged to pass these proficiency levels by examination. In certain cases a major Indian language may be substituted for either Spanish or Portuguese. Courses may be taken for pass/fail, not taken for letter grade, except lower division language courses.

Course Limitations: (1) Students may include only two independent graduate study courses (596, 597, 598) which occasionally have Latin American content (for example, Political Science 139, Management 297A, etc.) may be counted toward the degree by petition in which the student agrees to write a paper on a Latin American topic. In regard to these petitions, students are encouraged especially to relate theoretical or methodological courses in the various disciplines to the study of Latin America.

Standards of Scholarship: Students in the Latin American Studies program whose grade point average for the degree falls below 3.0 will not ordinarily be permitted to graduate. Students whose aim is to enter a doctoral program in Latin American Studies are advised that most departments will consider only those applicants whose grade point average equals 3.5 or higher.

Time Limitation on Enrollment: All work for the M.A. degree must be completed in seven consecutive quarters (excluding summer sessions), as long as normal progress is being made toward completion of the degree. Students are expected to integrate their concentration in one discipline with the study of their topic, and independent study courses. Students must be formally enrolled each quarter as they proceed to the M.A. degree in Latin American Studies, regardless of whether they are engaged in course work. Only two exceptions are permitted: (1) Students who have completed all of their studies except their examination or thesis by the end of a Spring quarter are obligated to pay only a filing fee for completion of their degree provided that they complete their work before the beginning of a Fall quarter. (2) Students who are not using faculty time, the University libraries, or other University facilities must request a formal leave of absence.

Certificate of Resident Study for Foreign Students: This certificate may be awarded to foreign students who do not seek the M.A. degree but (a) complete at least two courses in full-time resident study with a grade-point average of at least 3.0; (b) conduct satisfactorily a program of organized studies; (c) have a student visa requiring return to their home country upon completion of study in the United States.

INTERDISCIPLINARY COURSES

99. Introduction to Latin American Problems. An interdisciplinary seminar for lower division students; enrollment limited to 15 students. Since this course is not a general survey and its content varies from year to year, students will be permitted to repeat it for credit. 

The Staff

M155. Disease Problems of Socio-Economic and Political Impact in Latin America. (Same as Public Health M115) Prerequisite: one upper division course in Latin American Studies. Social, economic, and political impact of important disease problems in Latin American countries. Mr. Work

199. Special Studies in Latin American Studies. (1-2 courses) Prerequisite: upper division standing. An intensive directed research program in which students conduct interdisciplinary research or complete an internship with an institution or agency program dealing with Latin America. Faculty sponsoring and written reports are required.

The Staff

M200. Latin American Research Resources. (Same as History M265) The course will acquaint students with general and specific sources and fields concerning Latin American Studies. Library research techniques will provide the experience and competency required for future bibliographic and research sophistication as the basis for enhanced understanding and proficiency. Mr. Lauterhans

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 and relativistic data developed for publication in the Latin American Center's Statistical Abstract of Latin America and its Supplement Series.

The Staff

M232. Disease Problems of Socio-Economic and Political Impact in Latin America. (Same as Public Health M232) Prerequisite: consent of the instructor. A graduate course for students with knowledge of the geography and social and political systems for the diverse nationalities which constitute Latin America. For the four years following disease problems in respect to their social, economic and political impact on Latin American countries with only a minimum of medical and technical details necessary to understand the nature of the disease as it affects individuals and populations. Mr. Work

250A-250B. Interdisciplinary Seminar in Latin American Studies. Problem-oriented on critical areas stressed in the University's cooperative programs in thesis and field study. This course is offered on an In Progress basis which requires students to complete the full two quarters sequence at the end of which time a grade is given for all quarters of work. 250A is currently scheduled with Anthropology 250. Mr. Wilbert

250C. Interdisciplinary Topics in Latin American Studies. Prerequisite: permission of the instructor. A seminar devoted to selected topics of an interdisciplinary nature. Normally, a reading knowledge of the Spanish or Portuguese language is essential.

The Staff

Individual Study and Research

501. Cooperative Program. (1 to 2 courses) Prerequisite: approval of UCLA Graduate Advisor and Graduate Dean. Approval of host campus instructor, Department Chairman, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be counted toward the major, a course must be approved by the student's major department.

596. Directed Individual Study or Research. Only one 4-unit course may apply toward the minimum course requirement for the master's degree.

597. Preparation for the Comprehensive Examination for the Master's Degree. This course is ordinarily taken only during the quarter in which the student is being examined. A grade of Satisfactory (S) or Unsatisfactory (U) will be assigned by the Committee on the basis of the student's performance.

The Staff

598. Research for and Preparation of the Master's Thesis. A grade of Satisfactory (S) or Unsatisfactory (U) will be assigned by the professor supervising the master's thesis. Only one course may apply toward the minimum course requirement for the degree.

The Staff

LATIN AMERICAN SOCIAL SCIENCES COURSES

Special courses which may be applied to B.A. and/or M.A. degree requirements by petition wherein the student agrees to write a paper on Latin America. In petitioning to count courses not listed here, students are encouraged to relate theoretical or methodological courses in the various disciplinary fields to the study of Latin America.
COURSES

**Anthropology**
- 105A. Peoples of South America.
- 105B. Peoples of Middle America.
- 105C. Latin American Societies.
- 122A. Comparative Society.
- 122C. Technology and Environment.
- 123C. Ancient Civilizations of Western Middle America (Naahuatl Sphere).
- 123D. Ancient Civilizations of Eastern Middle America (Maya Sphere).
- 123E. Ancient Civilizations of Andean South America.
- 161. Development Anthropology.
- 172. Methods and Techniques of Ethno-history.
- 174. Laboratory Methods in Technology and Inventions.
- 175E. Laboratory Analysis in Archaeology.
- 177A. Field Methods in Linguistic Anthropology; Practical Phonetics.
- 214E. Selected Topics in Prehistoric Non-Agricultural Societies.
- 214G. Selected Topics in Prehistoric Civilizations of the New World.
- 214H. Selected Topics in Historical Reconstruction and Archaeology.
- 235. Social Movements and Social Crisis.
- 236. Urban Anthropology.
- 250. Indians of South America.
- 261A-261B. Research Methods and Procedures.
- 263. Analysis of Field Data.
- 265. Selected Topics in Field Training in Ethnography.
- 267A. Seminar in Ethnographic Film (same as Theater Arts M209C).
- 269F. Selected Topics in Ethnology.

**Archeology**
- 280. Archaeology Colloquium.
- 259. Field Work in Archaeology.

**Economics**
- 111. Theories of Economic Growth and Development.
- 190. International Economics.
- 213. Selected Problems of Underdeveloped Areas.

**Folklore**
- M149. Folk Literature of the Hispanic World (same as Spanish M149).
- 201A-201B. Folklore Collecting and Field Research.
- M249. Hispanic Folk Literature (same as Spanish M249 and Portuguese M249).
- M286B. Studies in Hispanic Folk Literature: Narrative and Drama (same as Spanish M286B).

**Geography**
- 181. Middle America.
- 182A. Brazil.
- 281. Middle America.
- 282. South America.
- 292. Advanced Regional Geography: Selected Regions.

**History**
- 8A. Latin America: Reform and Revolution.
- 165A-165B. Colonial Latin America.
- 166. Latin America in the 19th Century.
- 167A-167B. Latin America in the 20th Century.
- 168. History of Latin American International Relations.
- 170. Topics in Latin American Cultural History Since 1900.
- 172. The History of Brazil.

**Philosophy**
- 197. Undergraduate Colloquia: Latin America.
- 198Z. History of Argentina.
- 230L. Advanced Historiography: Latin America.
- 240L. Topics in History: Latin America.
- 266A-266B. Seminar in Colonial Latin American History.
- 266C-266D. Seminar in Brazilian History.
- 267A-267B. Seminar in Latin American History: 19th and 20th Centuries.
- 268A-268B. Seminar in Recent Latin American History.

**Political Science**
- 131. Latin American International Relations.
- 139. Special Studies in International Relations.
- 146. Political Behavior Analysis.
- 149. Special Studies in Politics.
- 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.
- 197B. Undergraduate Seminar: Latin America.
- 218A. Public Administration and Local Government.
- 224A. Quantitative Applications.
- 230. Comparative Development Administration.
- 235. Selected Topics in Comparative Politics.
- 250A. Seminar in Regional and Area Political Studies: Latin American Studies.
- 256A-256B. Seminar in Comparative Government.

**Sociology**
- 123. Social Stratification.
- 126. Social Demography.
- 131. Latin American Societies.
- 235. Social Structure and Social Movements.

**Linguistics**
- *Special courses which may be applied to B.A. and/or M.A. degree requirements by petition wherein the student agrees to write a paper on Latin America. In petitioning to count courses not listed here, students are encouraged to relate theoretical or methodological courses in the various disciplines to the study of Latin America.

**Spanish**
- 111G. Reading Course for Graduate Students (no credit).
- 2. Elementary Spanish.
- 2G. Reading Course for Graduate Students (no credit).

**Portuguese**
- 111. Elementary Portuguese.
- 2. Elementary Portuguese.

**Latin American Studies**
- 240L. Colonial Latin America.
- 241L. Latin American Social History.
- 249. Civilization of Spanish America and Brazil (same as Portuguese M44).
- 100. Phonology and Pronunciation.
- 105. Intermediate Composition.
- 118A-118B. Elementary Quechua.

**LINGUISTICS COURSES**
- *Special courses which may be applied to B.A. and/or M.A. degree requirements by petition wherein the student agrees to write a paper on Latin America. In petitioning to count courses not listed here, students are encouraged to relate theoretical or methodological courses in the various disciplines to the study of Latin America.

**Anthropology**

**Linguistics**
- 4. Introduction to Native American Languages.
- 100. Introduction to Linguistics.
- 103. Introduction to General Phonetics.
- 120A. Linguistic Analysis: Phonology.
- 120B. Linguistic Analysis: Grammar.
- 165A. Latin American Theory: Phonology.
- 165B. Latin American Theory: Grammar.
- 210A. Field Methods I.
- 210B. Field Methods II.
- 220. Linguistic Areas.
- 225. Linguistic Structures.

**Spanish**
- 111A. History of the Spanish and Portuguese Languages (same as Portuguese M118).
- 204A-204B. Transformational Grammar.
- 209. Dialectology.
- 256A. Studies in Linguistics.
- 256B. Studies in Dialectology.

**Portuguese**
- 103. Syntax.
- 118. History of the Portuguese and Spanish Languages (same as Portuguese M118).
- 204A-204B. Development of the Portuguese and Spanish Languages (same as Portuguese M204A-204B).
- 210A. Field Methods I.
- 210B. Field Methods II.
- 220. Linguistic Areas.
- 225. Linguistic Structures.

**Spanish**
- 111. Elementary Spanish.

**PORTUGUESE**
- 111. Elementary Portuguese.
- 2. Elementary Portuguese.
- 2G. Reading Course for Graduate Students (no credit).
- 5. Intermediate Spanish.
- 25. Advanced Spanish.
- M44. Civilization of Spanish America and Brazil (same as Portuguese M44).
- 100. Phonology and Pronunciation.

**NOTE:** For key to symbols, see page 74.
LITERATURE COURSES

*Special courses which may be applied to B.A. and/or M.A. degree requirements by petition wherein the student agrees to write a paper on Latin America. In petitioning to count courses not listed here, students are encouraged to relate theoretical or methodological courses in the various disciplines to the study of Latin America.

Spanish 121A-121B. Survey of Spanish American Literature.
137. The Literature of Colonial Spanish America.
139. 19th Century Spanish American Literature.
141. Mexican Literature.
142A. Spanish American Literature in the 20th Century: Poetry and Drama.
142B. Spanish American Literature in the 20th Century: Prose Fiction.
M149. Folk Literature of the Hispanic World (same as Folklore M149).
151. Folk Song in Spain and Spanish America.

*1160B. Hispanic Literature in Translation (not applicable to B.A. if major concentration is in Literature).

M200. Bibliography (same as Portuguese M200).
237. Chronisters of the Americas.
240. The Modernist Movement.
244. Contemporary Spanish American Novel and Short Story.
246. Contemporary Spanish American Theater.
M249. Hispanic Folk Literature (same as Folklore M249 and Portuguese M249).

280A. Studies in Contemporary Spanish American Literature: Modernist Poetry.
280B. Studies in Contemporary Spanish American Literature: Post-Modernist Poetry.
M286B. Studies in Hispanic Folk Literature: Narrative and Drama (same as Folklore M286B).
M286C. Studies in Hispanic Folk Literature: Ballad, Poetry and Speech (same as Folklore M286C).

Portuguese 121A-121B. Survey of Brazilian Literature.
127. Colonial Brazilian Literature.
129. Romanticism in Brazil.
130. Naturalism, Realism and Paranaism in Brazil.
137. Contemporary Brazilian Literature.
243A. Colonial Literature.
243B. 19th Century Literature.
243C. 20th Century Literature.
M249. Hispanic Folk Literature (same as Folklore M249 and Spanish M249).
253A. Special Studies in Brazilian Literature: The Novel.
253B. Special Studies in Brazilian Literature: The Poetry.
253C. Special Studies in Brazilian Literature: The Theater.
253D. Special Studies in Brazilian Literature: The Short Story and the Essay.

FINE ARTS COURSES

*Special courses which may be applied to B.A. and/or M.A. degree requirements by petition wherein the student agrees to write a paper on Latin America. In petitioning to count courses not listed here, students are encouraged to relate theoretical or methodological courses in the various disciplines to the study of Latin America.

Art 117A. Advanced Studies in Pre-Columbian Art: Mexico.
117B. Advanced Studies in Pre-Columbian Art: Central America.
117C. Advanced Studies in Pre-Columbian Art: The Andes.
118B. The Arts of Pre-Columbian America.
220. The Arts of Africa, Oceania and Pre-Columbian America.

Dance *117J1. Dance of Mexico. (½ course)
146. Dance in Latin America.
171. Dance of Mexico. (½ course)
266A-266B-266C. Dance Expressions in Selected Cultures.

Music *118K1. Music and Dance of Mexico. (½ course)
131A-131B. Music of Hispanic America.
157. Music of Brazil.

Theater Arts 106C. History of African, Asian and Latin American Film.

PROFESSIONAL COURSES

*Special courses which may be applied to B.A. and/or M.A. degree requirements by petition wherein the student agrees to write a paper on Latin America. In petitioning to count courses not listed here, students are encouraged to relate theoretical or methodological courses in the various disciplines to the study of Latin America.

234. Seminar in Spatial Development Policy.
235A-235B. Regional Approaches to National Development.
236A-236B. Urban Regional Development Theory.
239. Special Topics in Urban-Regional Development Policy.
253. Social Theory for Planning.
257. Loss and Change.
259. Special Topics in Social Development Policy.

Education *203. Educational Anthropology.
*204A. Schooling in Comparative Perspective.
*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.
204C. Planning Educational Language Policy Internationally.
207. Politics and Education.
253A. Seminar: Current Problems in Comparative Education.
253D. Seminar: Latin American Education. *253F. Education in Revolutionary Societies.

Law *270. International Law.
275. Law and Development in Latin America.
340. Individual Research.

*516. International Law.
531. Legal Development in Latin America.

Library Service *207. Seminar on International and Comparative Librarirship.
223. Literature of the Social Sciences.
224. Literature of the Humanities and Fine Arts.

Management 205A. International Business Economics.
205B. Comparative Market Structure and Competition.
205C. Business Forecasting for Foreign Economies.
208. Selected Topics in Business Economics.
233A. International Business Finance.
261B. International Marketing Management.
296A. International Business Management.
297A. Comparative and International Management.
297B. International Business Policy.
298B. Special Topics in International and Comparative Management.

Public Health *102. Demography.
*M115. Disease Problems of Socio-Economic and Political Impact in Latin America.
175. Medical Care Systems in International Perspective (½ course).
*214. Special Group Studies: Infectious and Tropical Diseases.
*222. Seminar in Epidemiology.
260E-260H. Advanced Nutrition. (½ course each)
262. Seminar in Nutrition. (½ course)

*470A. International Health Agencies and Programs. (½ course)
*470B. Issues in International Health Administration. (½ course)
596. Directed Individual Study or Research.

Note: Independent study courses such as 198, 199, 596, 597, and 598 are available in most departments and may be taken by petition to the Latin American Studies Adviser.

LAW

(cegation Office, 1224 Law Building)

Benjamin Aaron, A.B., LL.B., Professor of Law.
Richard L. Abel, A.B., LL.B., Ph.D., Professor of Law.
Norman Abrams, A.B., J.D., Professor of Law.
Reginald H. Allenby, Jr., B.S., LL.B., LL.M., Professor of Law.
Alison Grey Anderson, B.A., J.D., Professor of Law.
Michael R. Asimow, B.S.L., LL.B., Professor of Law.
John A. Bauman, B.S.L., LL.B., LL.M., Jurs.D., Professor of Law.
David A. Binder, A.B., LL.B., Professor of Law.
Barbara E. Brudno, B.A., M.A., J.D., Professor of Law.
Jenene J. Dunkenhoffer, A.B., J.D., Professor of Law.
George P. Fletcher, B.A., J.D., M.C.L., Professor of Law.
Carole E. Goldberg, B.A., J.D., Professor of Law.
Kenneth W. Graham, Jr., B.A., J.D., Professor of Law.
Donald G. Hagman, B.S., LL.B., LL.M., Professor of Law.
Harold W. Horowitz, A.B., LL.B., LL.M., S.J.D., Professor of Law.
Edward A. Jones, Jr., A.B., LL.B., Professor of Law.
Robert L. Jordan, A.B., LL.B., Professor of Law.
Kenneth L. Kaufl, A.B., LL.B., Professor of Law.
William A. Kinin, A.B., LL.B., Professor of Law.
Leon Levin, Ph.B., LL.B., LL.M., Professor of Law.
Wesley J. Liebler, B.A., J.D., Professor of Law.
Richard C. Maxwell, B.S.L., LL.B., Connell Professor of Law.
Several of the members of the Library Profession of the community serve as part-time Lecturers in the School with responsibility for some of the specialized courses.

Representatives of Other Departments on the Faculty of the Graduate School of Library and Information Science.

Arthur M. Cohen, Ph.D., Professor of Education
Jerrold Cushman, A.B., B.S.L.S., Senior Lecturer in English
Robert Stari Kimmann, Ph.D., Professor of English
Michel A. Melkanoff, Ph.D., Professor of Engineering
Richard H. Rossen, Ph.D., Professor of History.

For information regarding admission to the Graduate School of Library and Information Science and degree and certificate requirements, refer to the paragraphs on the School of Library and Information Science under Schools and Colleges.

Graduate students of other schools or departments who wish to take courses in the School of Library and Information Science may do so with the permission of the Instructor teaching the course. Undergraduate students who wish to enroll in 400-series courses must obtain the permission of the Dean of the School of Library and Information Science.

Graduate courses. 200-series. Consent of instructor is prerequisite to admission to all 200-series courses. For individual study courses, see 500-series. For professionally oriented courses, see 400-series. Professional courses. 400-series. Planned primarily for the professional degree. Master of Library Science, and for specialized professional study. Professional internship courses. 490-series. Consent of the Dean is prerequisite to admission to all 490-series internships.

Individual study courses. 500-series. Approval of the Dean of the School of Library and Information Science is prerequisite to admission to all 500-series courses. Method of instruction is by individual conferences with assigned members of the staff. Seminar courses are numbered in all 200-series.

Upper Division Courses

110. Information Resources and Libraries. Prerequisite: Sophomore standing or consent of instructor. Provides an introduction to bibliographic and research tools and methods for students with interests in ethnic groups. Specific sections focus on particular groups. 110A is concerned with American Indian history and culture, 110B with European history and culture; 110C with Latin American history and culture; and 110D with Asian-American history and culture; sections on other ethnic groups may be added. Offered in collaboration with the several ethnic studies programs. Students may take this course only once for credit.

Graduate Courses

205. Historiography of Librarianship, Bibliography and Information Science. Prerequisite: approval of instructor. Identification of historical source material. Comprehensive and critical review of the historical and biographical literature. Identification of areas in need of research or reinterpretation.

206. Seminar on Library History. Prerequisite: approval of instructor. Special studies in biography and history of librarianship. Relationships to contemporaneous social, cultural, and intellectual history. Research papers on topics identified in course 205.

207. Seminar on International and Comparative Librarianship. Prerequisite: approval 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 (Descriptive Cataloging) and 411 (Subject Cataloging and Classification) or equivalent. Specialized studies in selected areas of descriptive and bibliographical cataloging, e.g., purposes, principles, instructional development, potentialities of automation. May be repeated once.

211. Seminar in Subject Control of Library Materials. Prerequisites: course 410 (Descriptive Cataloging) and 411 (Subject Cataloging and Classification) or their equivalents. Study of selected problems in the design and use of verbal headings and classification systems. Manual and mechanized systems may be taken twice.


214. Seminar on Abstracting and Abstracting Services. Prerequisite: consent of the instructor. Historical background and current situation, particularly in science and technology. Possibilities and present limitations of automation. Role in coordination of information services. Problems of standardization to achieve international coordination. Influence of changing needs.

221. Bibliography of Science, Engineering and Technology. (Formerly numbered 217) Scientific and technical literature with emphasis on special types of publications, research material, reference and bibliographical aids to the physical sciences. Importance, purpose and nature of technical literature searches. Flow of information among scientists.
222. Bibliography of Medical and Life Sciences. Literature of the medical and life sciences: reference and bibliographical works; periodsicals and other serials; abstracting and indexing services; audio visual aids; 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. (Formerly numbered 219.) Seminar on the literature of the social sciences, including a review of the classics in the various fields, monumental source collections, periodsicals, bibliographies, catalogs, indexes, abstracts, etc. Trends in scholarly and popular writing. Interdisciplinary nature of the literature.

224. Literature of the Humanities and Fine Arts. (Formerly numbered 220.) Seminar on the literature of the humanities and fine arts, including a review of the classics in the various fields, comparisons of editions, periodsicals, bibliographical apparatus and reviewing media. Trends in scholarly and popular writing.

228. Legal Bibliography. Prerequisite: approval 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.


240. Information Systems Analysis and Design. (Formerly numbered 243.) Theories and principles of special systems development, including determination of requirements, technical design and evaluation, and internal organization.


244. Information Networks. Problems in the formulation, funding and operation of information networks are examined. A survey of some of the major networks, including institutional and computer systems.

249. Seminar on Special Topics in Information Science. Prerequisite: course 404 or consent of the instructor. Topics will vary from quarter to quarter to allow emphasis on specialized topics on information science such as vocabulary development, terminology, searching procedures, indexing and classification, bibliographic and linguistic text processing, and measures of relevance and system effectiveness. May be repeated for credit with consent of the instructor.

251. Reading and Reading Interests. (Formerly numbered 215.) 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. Reading interests and correlative types of literature surveyed with reference to the growth and development of children. Emphasis on the role of the librarian in responding to the needs and abilities of children through individualized reading guidance. Recommended preparation is English 112 (Children's Literature) or equivalent.

260. Historical Bibliography. (Formerly numbered 211.) Early records and the manuscript period; history of the printed book and of periodical publications and newspapers, including materials and methods and production. Parallel history of scholarship, the book trade, and book collecting in ancient, medieval and modern Western civilization.

261. Analytical Bibliography. History and methods of analytical bibliography with emphasis on recent scholarship. The book as a physical object and its relationship to the transmission of the text. Emphasis on hand-printed books. Theories of Bradshaw, Proctor, Greg, McKerrow, Pollard, Esdale, Bowers, Stevenson, Hinman, McKenzie, and others. Recommended, but not prerequisite, is course 260 (Historical Bibliography) or its equivalent in background or experience.

262. Seminar on Historical Bibliography. Prerequisite: course 260 or consent of instructor. Special studies in the history of books and publishing. Topics will vary from quarter to quarter to allow emphasis on a particular historical period, geographical area, or other specific aspect such as a form of publication, genre or material of production such as paper or type. May be repeated for credit with consent of the instructor.

271. Seminar on Intellectual Freedom. Prerequisite: consent of the 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. Seminar on Current Issues in Librarianship. Prerequisite: consent of the instructor. Identification, analysis, and discussion of critical issues currently facing the profession. May be repeated once.

290. Research Methodology. Prerequisite: consent of the instructor. Role of research in bibliography, librarianship, and information science. Identification and design of research problems. Historical, statistical, analytical and descriptive techniques.

Profession - I Courses


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 bibliographic apparatus. New techniques and tools, theory, methods, and trends in bibliographical research in relationship to librarianship.
429. Printing for Bibliographers. Prerequisite 260 (Historical Bibliography) or 261 (Analytical Bibliography) and consent of the instructor. Printing processes as related to bibliography and librarianship. Discussions, demonstrations, and experiments in design, composition, and presswork with special emphasis on the 19th century handpress. To be graded S/U.

430. Selection and Acquisition of Library Materials. (Formerly numbered 204.) 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. (Formerly numbered 205.) Subject and area collecting; special collections and rare books; building new collections. Evaluating and weeding collections. Cooperative cataloging-national, national and international. Storage centers; subject specialization. Special format materials: films, maps, sound recordings, etc. Copying methods; facsimile reprinting; changing character of research collections.


440. Library Systems Analysis. Analysis, design, and evaluation of data processing systems in the library. Includes management planning for automation, techniques for system description, criteria for library automation, issues in system implementation—all in the context of library internal, technical processing.

441. Management of Libraries. Prerequisite: consent of the instructor. Principles of management, emphasizing management techniques applicable to libraries of various types and to library systems. Special attention to aspects of technical services.

442. Library Personnel Administration. Covers the basic principles of personnel management. Provides a survey of current personnel practices in libraries. Assesses the basic principles applicable or need to be modified to fit the library setting.

446. Library Services for Youth. Provides an overview of programs and services which are of interest to young adults (12-18 year olds). Discusses special problems in working with young people and the psychology of the teenager as it influences library programs.

447. Library Space Planning. Introduction to space planning and programming techniques and how they apply to libraries. Emphasis is on existing space, but planning new buildings is included. Reading blue prints, use of scales, contracts, use of consultants.

451. College, University and Research Libraries. (Formerly numbered 401) Organization, administration, non-book materials, 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.

461. Public Libraries. (Formerly numbered 402) The government, organization, and administration of municipal, county, and regional public libraries; developments in the changing patterns of public library service.

464. School Libraries. (Formerly numbered 403) Elementary and secondary school libraries as multimedia instructional materials centers. Relationships of school libraries to school programs and curricula. Emphasis on administration, planning, materials, services, and equipment.

465. Library Services and Programs for Children. Philosophy and objectives of children's services in public and school libraries. Emphasis on services to groups and techniques of program planning which incorporate storytelling, puppetry, nonprint media, etc.

470. Special Libraries and Special Collections. (Formerly numbered 405) Organization, administration, collections, facilities, finances and problems of special libraries and of special collections within general libraries. Methods of handling nonbook materials. Current trends in documentation and mechanization.

471. Health and Life Sciences Libraries. (Formerly numbered 418) 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 scheduled.

472. Law Librarianship. Prerequisite: approval of instructor. An introduction to the profession of law librarianship; the organization of the professional associations and associations of students; the character and distribution of law libraries throughout the United States; the distinctive characteristics of law library problems and their solutions.

473. Government Publications. Prerequisite: course 421 (Comprehensive Bibliography). Bibliographic control, acquisition, organization, maintenance, and reference use of U.S. Federal, State, and local publications, with some attention given to the publications of international organizations and foreign governments.

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, library property, preservation, accessibility, and use.

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 old, the physically handicapped, and the institutionalized population.

500. Cooperative Program. (½ to 2 courses) Prerequisite: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

501. Cooperative Program. (½ to 2 courses) Prerequisite: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

506. Directed Individual Study or Research. Prerequisite: consent of the instructor. Directed special studies in the fields of bibliography, librarianship, and information science. Variable conference time depending upon nature of study or complexity of research. May be repeated once. To be graded S/U.

509. Directed Studies for the Doctoral Qualifying Examinations. (½ to 2 courses) To be graded S/U by the professor supervising the dissertation.

LINGUISTICS

(Office, 2113 Campus Hall)

Raimo A. Anttila, Ph.D., Professor of Indo-European and General Linguistics
William Bright, Ph.D., Professor of Linguistics and Anthropology
Victoria A. Fromkin, Ph.D., Professor of Linguistics
Talmy Givon, Ph.D., Professor of Linguistics and African Languages
Edward I. Kennew, Ph.D., Professor of Linguistics
Peter Ladetelog, Ph.D., Professor of Phonetics (Chairman of the Department)
Paul M. Schwartz, Ph.D., Professor of Linguistics
Russell G. Schuh, Ph.D., Associate Professor of Linguistics and African Languages
Robert P. Stockwell, Ph.D., Professor of Linguistics
Sandra A. Thompson, Ph.D., Professor of Linguistics
William E. Weimer, Ph.D., Professor of Linguistics and African Languages
Stephen R. Anderson, Ph.D., Associate Professor of Linguistics
George D. Bedell, Ph.D., Associate Professor of Linguistics
Joseph E. Linné, Ph.D., Associate Professor of Linguistics
Thomas J. Hinnebusch, Ph.D., Assistant Professor of Linguistics and African Languages
Pamela L. Mann, Ph.D., Assistant Professor of Linguistics.

Roger W. Anderson, Ph.D., Visiting Assistant Professor of English
Christopher A. M. Bults, Ph.D., Assistant Professor of Psychology in Residence
Henrik Biitbaurme, Ph.D., Professor of Slavic Languages
J. Donald Bowen, Ph.D., Professor of English
Giorgio Buccheri, Ph.D., Professor of Ancient Near Eastern Studies
Russell N. Campbell, Ph.D., Professor of English
Edward C. Cantroff, Ph.D., Professor of Psychology
Marianne C. Marcat, Ph.D., Professor of English
Kenneth G. Chapman, Ph.D., Professor of Russian
Keith S. Connellen, Ph.D., Professor of Philosophy
Christopher Ehret, Ph.D., Professor of History
Michael S. Fo, Ph.D., Associate Professor of Slavic Languages
John Galvan, Ph.D., Lecturer in English
Patricia M. Greenfeld, Ph.D., Professor of Psychology
Evelyn R. Hach, Ph.D., Associate Professor of English
Francois R. Hinojotes, Ph.D., Associate Professor of English
Robert S. Knorr, Ph.D., Assistant Professor of Dutch and Flemish Languages
Paul V. Knoxley, Ph.D., Assistant Professor of Anthropology
Wolf Lesch, Doctor-in-Residence, Emeritus Professor of Hebrew and Semitic Linguistics
Bengt Lofstedt, Ph.D., Professor of Medieval Latin
Donald G. MacKay, Ph.D., Professor of Psychology
Louis McIntosh, Ph.D., Emeritus Professor of English
Clarence Mitchell-Kennard, Ph.D., Associate Professor of Anthropology
Michael Moerman, Ph.D., Professor of Anthropology
C. P. Otero, Ph.D., Professor of Spanish and Romance Linguistics

NOTE: For key to symbols, see page 74.
Undergraduate Majors

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 area.
(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 non-university teaching careers as goals; and the African major is for students with specific African interests.

The Major in Linguistics

This major should be elected only by 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. In the lower division, in addition to the general University requirements, the student must complete the equivalent of the sixth quarter of work in two foreign languages, or the sixth quarter in one language and the third quarter in each of two other foreign languages. In addition the student must take Linguistics 1 and two of the following three courses: Philosophy 31, Psychology 10, one course in Cultural Anthropology.

Requirements for the Major. A minimum of eleven upper division or graduate courses which must include Linguistics 100, 103, 110, 120A, 120B, and either 164 or both 165A and 165B (the 165A-165B option is recommended for students planning to go into Linguistics graduate work); the other five courses are electives, three of which must be upper division courses to be selected by the student subject to the approval of his adviser. These electives have typically been selected from the following list, though it is not exhaustive: Linguistics 104, 125, 130, 140, 145, M146, M150, 160, 165A, 165B, 170, 180, 195, 199 (if offered), African Languages 190, Anthropology 177B, Indo-European Studies 160, 161, 162, Philosophy 127A, 127B, 172, 192, Psychology 122, 123, English 121, 122, 123; or advanced courses in a foreign language or literature (those 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 fulfillment of the foreign language requirement described above under Preparation for the Major. A student who completes an advanced language course is considered to have completed the equivalent of whatever courses are prerequisite to that one: e.g., if he completes French 101, he has automatically satisfied the requirement of the sixth quarter of work in one foreign language. 165A-165B and 195 are recommended for students planning to pursue graduate work (linguistics, UC).

To enroll in Linguistics 195, the student 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 or Senior years and who have received a grade of A in Linguistics 195.

The Major in Linguistics and English

Preparation for the Major. Linguistics 1; English 2, 10A, 10B, 10C, Philosophy 31; completion of the sixth quarter of work in two foreign languages, or the sixth quarter in one foreign language and the third quarter in each of two other foreign languages.

Requirements for the Major. Fifteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and two upper division electives from other Linguistics courses or English 123; and English 121, 122, 140, and four electives chosen from 141, 142A, 142B, 143, the 150 series (one course only), the 160 series (one course only), the 170 series (one course only).

The Major in Linguistics and French

Preparation for the Major. Linguistics 1; French 1-6, 12, 15; and completion of the sixth quarter of work in one other foreign language or the third quarter in each of two other foreign languages.

Requirements for the Major. Sixteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and two upper division electives in Linguistics; and French 100A, 100B, 100C, 103, 105, 106, and two elective upper division literature courses.

The Major in Linguistics and Italian

Preparation for the Major. Linguistics 1, Italian 1-6, Latin 1-3, and completion of the third quarter of work in another foreign language, or the sixth quarter in Latin; Philosophy 31; and one course in Cultural Anthropology.

Requirements for the Major. Fourteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and one upper division elective in Linguistics; and Italian 102A, 130A, 130B, and three additional upper division electives in Italian.

The Major in Linguistics and Spanish

Preparation for the Major. 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, or European Languages 40A or 40B, as appropriate; and completion of the sixth quarter in another foreign language, or the third quarter in each of two others.


The Major in Linguistics and Philosophy

Preparation for the Major. Linguistics 1; Philosophy 31 and two out of Philosophy 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.

Requirements for the Major. Fourteen upper division courses as follows: Linguistics 100, 103, 120A, 120B, 164, 165B, and two upper division electives in Linguistics; and six upper division courses in Philosophy including at least five from 125-135, 170-174, 176, 184-188 (of which at least two must be from 127A, 127B, and 172).

The Major in Linguistics and Psychology

Preparation for the Major. Linguistics 1; Mathematics 2, 4A; Psychology 10, 41, and completion of the sixth quarter in a foreign language and the third quarter in a second foreign language. Engineering 10 strongly recommended.

Requirements for the Major. Fourteen upper division courses as follows: Linguistics 100, 103, 120A, 120B, 130, 195, and two upper division electives in Linguistics; and Psychology 110, 120, 121, 122 or 123, and the remaining elective to be chosen from 112, 115, 124, 125, 142A, 142B, 143. Psychology 115 strongly recommended.

The Major in Linguistics and Spanish

Preparation for the Major. Linguistics 1; Spanish 1-5, M42, M44, and completion of a sixth quarter of work in one other foreign language, or the third quarter in each of two other foreign languages.

Requirements for the Major. Fifteen upper division courses distributed as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and two additional upper division courses in Linguistics, preferably 130 and 170; and Spanish 100, 103, 115 or 118, 119, and three additional upper division courses in Spanish.

The Major in African Languages

Preparation for the Major. In the lower division, in addition to the general University requirements, the student must complete Linguistics 1 and six courses in African Languages (101-143, 199), not fewer than three in any one language.

Requirements for the Major. A minimum of fifteen upper division courses which must include six additional courses in African languages, at least six courses in all being in one language (e.g., three counting as preparation, three further counting as requirements for the major). African Languages 150A, 150B, 190, 192. Linguistics 100, 103; and three courses selected from: Anthropology 107A, 107B, English 114, 123, Geography 189, History 125A, 125B, 125C, 126A, 126B, 127A, 127B, 128A, 128B, Linguistics 140, M146, 170. Music 143A, 143B, Political Science 166A, 166B, 166C, 166D. Completion of the sixth quarter in one of the following non-African languages is strongly recommended: French, Dutch-Flemish-Afrikants, German, Portuguese. For the second African Languages, one must complete three additional courses in African languages.

The Graduate Linguistics Program

The programs leading to the M.A. and Ph.D. in linguistics are open to qualified graduate students who are interested in the theory and methods of structural and historical linguistics. Preparation for graduate study in linguistics should be equivalent in as many respects as possible to the undergraduate curriculum in linguistics.

Admission to the Program

In addition to meeting the requirements of the Graduate Division, the applicant should have (1) an A.B. degree in linguistics or in a language or social science field, and (2) must have completed Linguistics 100, 103, 110, 120A-120B, 164, and 165A-165B, or their equivalent. Letters from the applicant's former instructors should be provided and applicants should submit to the Chairman a detailed account of their aims in graduate study of linguistics and their background for it. Scores on the Graduate Record Examination (verbal and quantitative) must be submitted with the application. A sample of the applicant's research should be
submitted to the chairman where feasible (e.g., a term paper from some relevant course). Students will be admitted to begin residence in the fall quarter only (i.e., no winter and spring admissions) except by decision of the department chairman. Upon admission to graduate status, students must consult a graduate adviser about the planning of their studies.

Requirements for the Master's Degree

General Requirements. See those of the Graduate Division.

Courses 103, 110, 120A, 120B, 164, 165A, 165B are considered as undergraduate deficiency courses and are prerequisite to 210A-210B, and if waived on the basis of training elsewhere the student must pass an examination in practical phonetics at the B level or better in order to take 210A-210B.

A student who enters the program without prior training in linguistics must take basic deficiency courses should expect to spend six quarters (two years) in the M.A. program. A student with one to three deficiencies will normally spend seven quarters in the program, and one with more than three deficiencies will normally spend nine quarters to complete the M.A. within three and one quarter years.

The M.A. degree may be obtained either by the Thesis Plan or by the Comprehensive Examination Plan. Under both the student is required to complete nine courses with a grade average of B or better. Of the nine, six must be distributed among three areas: syntax-semantics, phonology-phonetics, and language change-variation-typology. Each student must take at least three courses in one area, two in a second, and one in the third. The courses which may be taken to fulfill these requirements are: syntax-semantics: 206, 252A-B; phonology-phonetics: 201, 204, 251A-B; language change-variation-typology: 202, 253A-B; 254A-B (if subject matter applicable). Any course in the 250 series may be repeated for credit.

If only one course is taken in an area it must be one of the basic deficiency courses. The additional three courses may be selected in any area of interest. With the exception of 165A and 165B, which may be counted in any of the nine courses for the M.A., all these courses must be graduate courses. The following courses, 596A or 596B and no more than eight units of 501 may be applied toward the required nine courses.

Thesis Plan. After completing the required courses, the student will submit a thesis based on original research to a Thesis Committee for approval. The Committee, consisting of three faculty members, is to be established at least one quarter prior to the quarter in which the thesis is submitted, and is responsible for its final approval. All students intending to proceed to the Ph.D. must adopt this plan.

Comprehensive Examination Plan. After completing the required courses, the student will satisfactorily pass a comprehensive examination administered by a committee of the Linguistics faculty. This will normally be an oral examination, and result in a terminal M.A. degree.

The Language Requirement. All candidates for the M.A. must pass a language proficiency examination administered by a committee of the Department, in one foreign language. Languages other than standard research languages are acceptable only if approved by the committee, upon petition. Speakers of languages other than English are permitted to use English to meet the foreign language requirement, unless English was the language of instruction in their elementary and secondary education. Students should fulfill this requirement as early as possible in their graduate career, but in any case prior to taking the comprehensive examination or submitting the M.A. thesis.

Transfer Credit. No more than two courses (with grades of B or above) may be transferred toward the M.A. from institutions outside the University of California, though equivalent training elsewhere provides the basis for determining when courses the student would be well-advised to take.

Grades and Probationary Status. An average of 3.00 must be maintained in all course work. Students with grade records fractionally below 3.00 in a quarter term are considered probationary for the following term, during which term their grade record must be brought up to 3.00. Students whose grade records do not meet these minimal standards are subject to dismissal.

Requirements for the Doctor's Degree

Admission into the Ph.D. program of a student who has received the M.A. degree in Linguistics at UCLA will be contingent on the quality of the M.A. thesis as the fact that the student has completed the required work and has promise. A student entering the graduate program who has already received an M.A. in Linguistics from another department or institution must fulfill all the requirements of the linguistics department. This means the required course work, unless work elsewhere is considered equivalent and satisfies the course requirements. A student may submit a Master's thesis written at another institution or department for evaluation after the other requirements are fulfilled. Admission into the doctoral program may be contingent on a revision of the submitted M.A. thesis should the evaluating committee so recommend. A student with an M.A. in Linguistics from another institution who has not written a thesis elsewhere is not required to formally submit a thesis but is required to submit to the evaluation committee a paper equal in depth and scope to a thesis.

Candidates for the Ph.D. are required to take 32 units of graduate course work beyond the M.A. requirements. Eight of these units must be in supervised field work for which 210A-210B may serve, and eight in an area distinct from that of the student's major area of concentration. The 32 units may not include courses 597, 599, or 275 (collabo- ration). Of the 32 units, no more than twelve units may be in 596A. A maximum of four two-unit seminars may be included in the 32 units. If the field methods or directed linguistic analysis (210A-B, 596B) were taken in fulfillment of the nine M.A. courses, they may not be included in the 32 additional units for the Ph.D. In order to be advanced to candidacy a student is required to present two substantive research papers of publishable quality in different areas of linguistics, to pass an oral qualifying examination in those areas of linguistics primarily relevant to his dissertation, and to make a presentation at a meeting of the Linguistics Colloquium. The Linguistics Colloquium meets throughout the year. Advanced graduate students are required to participate. Students are expected to be advanced to candidacy not later than six quarters after being admitted into the doctoral program. The dissertation and the final oral examination are required in accordance with the requirements of the Graduate Division.

The Ph.D. candidate must either (1) demonstrate a reading knowledge of two languages by passing examinations administered by a departmental committee (languages other than standard research languages are acceptable only if approved by the committee, upon petition); or (2) demonstrate a reading knowledge of one language at a high level and a reading knowledge of another language administered by a departmental committee (if the language does not have a substantial body of linguistic literature, the proficiency must include oral proficiency).

For information on student support in the form of fellowships, research assistantships, and teaching assistantships, consult the Chairman of the Department.

Language Sections of the Department

The African Languages section of the Linguistics Department offers instruction in many of the major languages of Africa, relevant comparative linguistics courses, and courses in African literature. The section on Indigenous Languages of the Americas offers instruction in Quechua and native American languages, such as Navajo, when staffing permits. The section on South Asian Languages offers instruction in Thai, Tagalog and Hindi, when staffing permits.

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.

Ms. Fromkin, Mr. Ladeloged, Ms. Thompson

2. Linguistics and Minority Dialects. Prerequisite: course 1 or consent of the instructor. A survey of the main features of vocabulary, grammar, and pronunciation which distinguish the usage of Afro-American and Chicano-American speakers of English.

The Staff

4. Introduction to Native American Languages. This course will survey the native languages of North America, concentrating on languages of California and nearby areas. The characteristics of American Indian languages in general and of particular languages selected by the instructor will be considered, especially in terms of their relationship to Indian culture, both traditional and modern, and to attitudes of Indians and others about these languages.

Mr. Bright, Ms. Munro

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.

The Staff

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.

The Staff

103. Introduction to General Phonetics. Prerequisite: course 100 or equivalent (100 may be taken concurrently with 103). The phonetics of a variety of languages and the phonetic phenomena that occur in languages of the world. The purpose of phonetics in the perception and production of such phenomena. A special section emphasizes those languages likely to be of interest to teachers of English as a Second Language.

Ms. Fromkin, Mr. Ladeloged, Ms. Moskowitz


Mr. Anderson, Ms. Fromkin, Mr. Ladeloged

NOTE: For key to symbols, see page 74
M146. Language in Culture. (Same as Anthropology M146.) Prerequisite: course 1 or Anthropology 177A-177B. The study of language as an aspect of culture; the relation of normal thought and behavior to language; the problem of meaning. Mr. Bright, Mr. Kroasberry

M150. Introduction to Indo-European Linguistics. (Same as Indo-European Studies M150.) Prerequisite: one year of college level study (course 3 or better) 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 their chief characteristics. Mr. Antilla

M160. History of Linguistics Through the 19th Century. Prerequisite: 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. Antilla, Mr. Bedell, Ms. Fromkin

M164. Modern Theories of Language. Prerequisites: courses 20A and 20B. 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. The Staff

M201. Theories of Language. Prerequisite: courses 120A, 120B. A survey of current issues in linguistics and related fields. The Staff

M224. Linguistics in Relation to Language Teaching. Prerequisite: courses 100, 120A-120B or consent of instructor. A survey of contemporary linguistic theory and to such applications as mechanical translation and information retrieval; development of basic familiar programming and programming languages for linguistics purposes. The Staff

M246A. Linguistic Anthropology I. (Same as Anthropology M201A.) Prerequisite: consent of instructor. Research in verbal interaction, emphasizing the use of conversational structures. Mr. Moerman

M246B. Linguistic Anthropology II. (Same as Anthropology M201B.) Prerequisite: consent of instructor. This seminar aims to provide interested students 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. The seminar also aims to acquaint students with problems and issues in the field of sociolinguistics through a case study approach. Ms. Mitchell-Kernan

Graduate Courses

201. Phono logic Theory. Prerequisite: courses 120A, 165A. Survey of current issues in phonological theory. Mr. Anderson, Ms. Fromkin

202. Theory of Language Change. Prerequisite: course 110. Survey of current issues in language change. Mr. Antilla, Mr. Bright, Mr. Schuh

204. Experimental Bases of Linguistics. Prerequisite: course 165A. Theory and practice in experimental research in phonetics and linguistics. Ms. Fromkin, Mr. Ladehoff
M246C. Linguistic Anthropology III. Same as Anthropology M201C. Prerequisite: consent of instructor. Problems in the relations of language to culture. The Staff

Proseminars and Seminars (numbered 250 and above) may be repeated for credit, having been approved by the Graduate Council as nonrepetitive in content.

251. Topics in Phonetics and Phonology 1. Proseminar. Prerequisites: course 165A; 201 may be required. Specialized topics in phonetics or phonology. Concurrent meeting with Linguistics 256A-256B. The Staff

252. Topics in Syntax and Semantics 1. Proseminar. Prerequisites: course 165A; 201 may be required. Specialized topics in syntax and semantics. Concurrent meeting with Linguistics 257A-257B. The Staff

253. Topics in Language Variation 1. Proseminar. Prerequisites: course 110; 202 may be required. Specialized topics in language variation. Concurrent meeting with Linguistics 258A-258B. The Staff

254. Topics in Linguistics 1. Proseminar. Prerequisites: courses 165A, 165B, 201, 202 or 206 may be required; consent of instructor. Individual proseminars will deal with such topics as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. Concurrent meeting with Linguistics 259A-259B. The Staff

256A-256B. Topics in Phonetics and Phonology 2. Proseminar. Prerequisites: course 165A; 201 may be required. Specialized topics in phonetics or phonology. Graded In Progress in the first quarter (A), with letter grade assigned on completion of the second quarter. Concurrent meeting with Linguistics 252. The Staff

257A-257B. Topics in Syntax and Semantics 2. Proseminar. Prerequisites: course 165B; 206 may be required. Specialized topics in syntax and semantics. Graded In Progress in the first quarter (A), with letter grade assigned on completion of the second quarter. Concurrent meeting with Linguistics 252. The Staff

258A-258B. Topics in Language Variation 2. Proseminar. Prerequisites: course 110; 202 may be required. Specialized topics in language variation. Graded In Progress in the first quarter (A), with letter grade assigned on completion of the second quarter. Concurrent meeting with Linguistics 252. The Staff

259A-259B. Topics in Linguistics 2. Proseminar. Prerequisites: course 165A, 165B; 201, 202 or 206 may be required; consent of instructor. Individual proseminars will deal with such topics as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, etc. Graded In Progress in the first quarter (A), with letter grade assigned on completion of the second quarter. Concurrent meeting with Linguistics 252. The Staff

Seminars may be taken for two units of credit only by students who have been formally admitted to the doctoral program. All others must enroll for four units.

261A-261B-261C. Seminar in Phonology. (9 or 1 course) Prerequisite: completion of at least twelve units of graduate courses in phonology. 261A, 261B, and 261C may be taken independently of each other. Only Post-M.A. students may enroll for two units; all others must enroll for four. Graded satisfactory/unsatisfactory. The Staff

262A-262B-262C. Seminar in Syntax and Semantics. (9 or 1 course) Prerequisite: completion of at least twelve units of graduate courses in syntax and semantics. 262A, 262B, and 262C may be taken independently of each other. Only Post-M.A. students may enroll for two units; all others must enroll for four. Graded satisfactory/unsatisfactory. The Staff

263A-263B-263C. Seminar in Language Variation. (9 or 1 course) Prerequisite: completion of at least twelve units of graduate courses in language variation. 263A, 263B, and 263C may be taken independently of each other. Only Post-M.A. students may enroll for two units; all others must enroll for four. Graded satisfactory/unsatisfactory. The Staff

264A-264B-264C. Seminar in Special Topics in Linguistic Theory. (9 or 1 course) Prerequisite: consent of instructor. 264A, 264B, and 264C may be taken independently of each other. Special topics may include child language, phonetics, neurolinguistics, psycholinguistics, sociolinguistics, etc. Only Post-M.A. students may enroll for two units; all others must enroll for four. Graded satisfactory/unsatisfactory. The Staff

275. Linguistics Colloquium. Prerequisite: fulfilment of the M.A. requirements. Varied linguistic topics, generally presentations of new research by students, faculty, and visiting scholars. Graded satisfactory/unsatisfactory. The Staff

276. Linguistic Colloquium. (non-credit course) Prerequisite: fulfilment of the M.A. requirements. Same as course 275, taken without credit by students not presenting a colloquium. Graded satisfactory/unsatisfactory. The Staff

495. College Teaching of Linguistics. (3 course) Prerequisites: graduate standing; required of all new Teaching Assistants. Seminars, workshops, and apprentice teaching. Selected topics including curriculum development, various teaching strategies and their effects, teaching evaluation, and other topics on college teaching. Students receive credit toward full time equivalence, but not towards any degree program. Graded only on satisfactory/unsatisfactory basis. The Staff

501. Cooperative Program. (9 to 2 courses) Prerequisite: approval of UCLA graduate adviser and graduate dean. Approval of host campus instructor, department chairperson, and graduate dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. Graded satisfactory/unsatisfactory. The Staff

Individual Study and Research

596A. Directed Studies. (9 to 2 courses) Prerequisite: completion of all undergraduate deficiency courses. May be applied toward fulfillment of M.A. course requirements. Directed individual study or research. May be repeated for credit. Graded satisfactory/unsatisfactory. The Staff

596B. Directed Linguistic Analysis. (9 to 2 courses) Prerequisite: fulfilment of the M.A. requirements. Intensive work with native speakers by students individually. May be repeated for credit. Graded satisfactory/unsatisfactory. The Staff

597. Preparation for Master's Comprehensive and Doctoral Qualifying Examinations. (9 to 2 courses) Prerequisite: at least six graduate courses in linguistics. Can be taken only in the quarters in which the student expects to stand for his comprehensive or qualifying examinations. May not be applied toward fulfillment of M.A. course requirements. May be repeated for credit. Graded satisfactory/unsatisfactory. The Staff

598. Research for Master's Thesis. (9 to 2 courses) Prerequisite: consent of chairman of guidance committee. Research and preparation of the M.A. thesis. May not be applied toward fulfillment of M.A. course requirements. May be repeated for credit, for a maximum of 8 units credit. Graded satisfactory/unsatisfactory. The Staff

599. Research for Dissertation. (9 to 4 courses) Prerequisite: advancement to candidacy for the Ph.D. degree. May not be applied toward fulfillment of Ph.D. course requirements. May be repeated for credit. Graded satisfactory/unsatisfactory. The Staff

NOTE: For key to symbols, see page 74

African Languages

Upper Division Courses

101A-101B-101C. Elementary Swahili. Five hours. The major language of East Africa, particularly Tanzania. Mr. Hinnebusch

102A-102B-102C. Intermediate Swahili. Five hours. Prerequisite: courses 101A-101B-101C or consent of the instructor. Mr. Hinnebusch

103A-103B-103C. Advanced Swahili. Prerequisite: courses 102A-102B-102C or consent of the instructor. Readings in Swahili literature and the contemporary press. Discussions mainly in Swahili. Mr. Hinnebusch

1040A-104B-104C. Elementary Luganda. Five hours. A major language of Uganda. Mr. Givón

1045A-105B-105C. Elementary Sotho. Five hours. Southern Sotho, spoken primarily in Basutoland and Orange Free State, mutually intelligible with adjacent Northern Sotho and Tswana. Mr. Kunene

1046A-106B-106C. Intermediate Sotho. Five hours. Prerequisite: courses 105A-105B-105C or consent of instructor. Mr. Kunene

107A-107B-107C. Elementary Zulu. Five hours. The most widely spoken of the Nguni languages of South Africa, mutually intelligible with other members of this group. Mr. Kunene

108A-108B-108C. Intermediate Zulu. Five hours. Prerequisite: course 107A-107B-107C or consent of instructor. Mr. Kunene

109A-109B-109C. Elementary Xhosa. Five hours. A Major Nguni language of South Africa, mutually intelligible with other members of this group. Mr. Kunene

110A-110B-110C. Intermediate Xhosa. Five hours. Prerequisite: courses 109A-109B-109C or consent of the instructor. Mr. Kunene

111A-111B-111C. Elementary Yoruba. Five hours. Prerequisite: consent of the instructor. The major language of western Nigeria. The Staff
Graduate Courses

*120A-201B. Comparative Neger-Congo. Prerequisite: Linguistics 165A, 165B, 220A; recommended preparation: Linguistics 202, three quarter courses in one language selected from courses 101-132, 199. Investigation of relationships within the Nger-Congo family as a whole, or within selected branches of the family. Mr. Welmers

270. Seminar in African Literature. Mr. Kunene

Individual Study and Research

596. Directed Studies. (4 to 2 courses) Directed individual study or research. Up to one full course may be applied toward fulfillment of M.A. course requirements. May be repeated for credit. Graded satisfactory/unsatisfactory. The Staff

Indigenous Languages of the Americas

Upper Division Courses

118A-118B-118C. Elementary Quechua. Five hours. The language of the Incas and its present day dialects, as spoken in Andean South America. The Staff

South Asian Languages

Upper Division Courses

*151A-151B-151C. Elementary Thai. Five hours. The major language of Thailand. Mr. Campbell

*152A-152B-152C. Intermediate Thai. Prerequisite: courses 151A-151B-151C or consent of instructor. Mr. Campbell

*161A-161B-161C. Elementary Tagalog. Five hours. The national language of the Philippines. Mr. Bowen

*171A-171B-171C. Hindi. Five hours. Mr. Bright

Related Courses in Other Departments

(Other than Language Courses)


Arabic (Department of Near Eastern Languages) 280. Structure of Classical Arabic.

Armenian (Department of Near Eastern Languages) 210. History of the Armenian Language.

Czechoslovak (Department of Slavic Languages) 222. The Structure of Slovak.

Dutch (Department of Germanic Languages) 234. The Structure of Modern Standard Dutch.


Folklore 217. Folk Speech.

French 204A. Phonology and Morphology from Vulgar Latin to French Classicism. 204B. Syntax and Semantics from Vulgar Latin to French Classicism. 206A. French Grammatical Theory. 206B. Problems in French Syntax.


Irish (Department of Near Eastern Languages) 210A-210B. The History of the Persian Language. 211A-211B. Modern Iranian Dialects.

Italian 259A. History of the Italian Language. 259B. The Structure of Modern Italian.

Latin (Department of Classics) 240. History of the Latin Language.


Portuguese (Department of Spanish and Portuguese) 100. Phonology and Pronunciation. 103 Syntax. M118 History of the Portuguese and Spanish Languages. M203A-203B. The Development of the Portuguese and Spanish Languages. M251. Studies in Galician-Portuguese and Old Spanish.
Psychiatry 322. Language Disorders of Childhood.

Psychology 122. Language and Communication.

123. Psycholinguistics.

221. Seminar in Language and Communication.

246A. Psycholinguistics I Seminar.

246B. Psycholinguistics II Seminar.

Russian (Department of Slavic Languages) 121. Russian Phonology.

122. Russian Morphology.

123. Historical Commentary to Modern Russian.

204. Introduction to the History of the Russian Literary Language.

241. Russian Phonology.


243A-243B. Historical Phonology and Morphology of Russian.

263. Russian Dialectology.

264. The Evolution of the Literary Russian.

265. Russian Syntax.

266. Russian Lexicology.

Scandinavian Languages (Department of Germanic Languages) 210. History and Description of the Scandinavian Languages.

Semantics (Department of Near Eastern Languages) 209A-209B-209C. Comparative Study of the Ethiopian Languages.


290A-290B-290C. Comparative Morphology of the Semitic Languages.

Slavic Languages 202. Introduction to Comparative Slavic Linguistics.


251. Introduction to Baltic Linguistics.

262A-262B. Western Slavic Linguistics.

263A-263B. Southern Slavic Linguistics.


282. Seminar in Structural Analysis.

Sociology 144. Conversational Structures.

266. Selected Problems in the Analysis of Conversation.

267. Selected Problems in Communication.

Spanish (Department of Spanish and Portuguese) 100. Phonology and Pronunciation.

103. Syntax.


M118. History of the Portuguese and Spanish Languages.

M203A-203B. The Development of the Portuguese and Spanish Languages.

204A-204B. Transformational Grammar.

206. Linguistics.

209. Dialectology.

M251. Studies in Galician-Portuguese and Old Spanish.

256A-256B. Studies in Linguistics and Dialectology.

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

Management (Department Office, 3250 Graduate School of Management)

Robert B. Andrews, Ph.D., Professor of Management.

Irene R. Bettman, Ph.D., Professor of Management.

John W. Buckley, Ph.D., Arthur Young Professor of Accounting.

Elwood S. Buffa, Ph.D., Professor of Operations Management and Management Science.

Irelend S. Burra, Ph.D., Professor of Urban Planning.

Joseph D. Carrabino, Ph.D., P.E., Professor of Management.

Fred C. Case, D.B.A., Professor of Urban Land Economics.

Saul A. Cullbert, Ph.D., Professor of Human Systems Development.

Louis E. Davis, M.S., Professor of Organizational Sciences and Human Resource Management.

David K. Ettema, Ph.D., Professor of Finance.

Donald Elenkoeller, Ph.D., Professor of Planning and Decision Sciences.

Hy Fane, J.D., Adjunct Professor of Arts Management.

Eric Flamholtz, Ph.D., Professor of Accounting and Information Systems.

Walter A. Fogel, Ph.D., Professor of Industrial Relations, and Research Economist, Institute of Industrial Relations.

Arthur M. Geofrion, Ph.D., Professor of Management Science.

Gwen W. Graves, Ph.D., Professor of Quantitative Methods.

Edward K. Hamilton, B.A., Adjunct Professor of Management.

John C. Hodgson, A.B., Adjunct Professor of Management.

Alfred E. Hofflander, Ph.D., Professor of Finance and Insurance.

John E. Hinson, Ph.D., Professor of Industrial Relations.

James R. Jackson, Ph.D., Professor of Management.

Harold H. Kasnaijan, Ph.D., Professor of Management.

Paul Kircher, Ph.D., C.P.A., Professor of Accounting and Information Systems.

Archie Kleingartner, Ph.D., Professor of Industrial Relations.

Clayton L. Lowrance, Jr., Ph.D., Professor of Economics.

Steven A. Lipperman, Ph.D., Professor of Quantitative Methods.

James B. MacQueen, Ph.D., Professor of Management.

Robert Hal Mason, Ph.D., Professor of International Business and Business Policy.

Fred A. Massarik, Ph.D., Professor of Behavioral Science and Industrial Relations, and Research Behavioral Scientist, Institute of Industrial Relations.

Frederic Meyers, Ph.D., Professor of Industrial Relations.

Daniel J.B. Mitchell, Ph.D., Professor of Industrial Relations.

Frank G. Mellotbush, M.A., Professor of Management and Planning, and Research Economist.

Robert J. Nelson, Ph.D., Professor of Management Science and Production and Operations Management.

Alfred Nicols, Ph.D., Professor of Managerial Economics.

Anthony F. Rasa, Ph.D., Professor of Management.

Richard W. Roll, Ph.D., Professor of Finance.

John P. Shelton, Ph.D., Professor of Finance.

Keith V. Smith, Ph.D., Professor of Finance and Business Economics.

R. Clay Sprouls, Ph.D., Professor of Computers and Information Systems.

Robert A. Stein, Ph.D., Professor of Management and Public Policy.

Robert Tannenbaum, Ph.D., Professor of the Development of the Human Systems.

J. Fred Weston, Ph.D., Professor of Managerial Economics and Finance.

Harold M. Williams, J.D., Professor of Management.

Robert M. Williams, Ph.D., Professor of Business Economics and Statistics.

Yoshitiro Tsutsumi, D.B.A., Acting Professor of International Management.

C. C. Ellis, Ph.D., Emeritus Professor of Engineering and Production Management.

William F. Brown, Ph.D., Emeritus Professor of Marketing.

A. B. Carson, Ph.D., C.P.A., Emeritus Professor of Accounting.

James C. Clendenin, Ph.D., Emeritus Professor of Finance.

Ira N. Frieden, M.B.A., C.P.A., LL.D., Emeritus Professor of Accounting.

Les Grebler, Ph.D., Emeritus Professor of Urban Land Economics.


Raymond J. Jessen, Ph.D., Emeritus Professor of Business Statistics and Emeritus Professor of Public Health.

Eugene M. Kendra, Ed.D., Emeritus Professor of Management.

John L. Koon, D.B.A., Emeritus Professor of Management.

Wayne L. McNaughton, Ph.D., Emeritus Professor of Management.

George W. Robbins, M.B.A., Emeritus Professor of Marketing.

Harry Simon, M.A., C.P.A., Emeritus Professor of Accounting.

Irshad Adlai, Ph.D., Emeritus Professor of Managerial Studies.

Theodore A. Andersen, Ph.D., Associate Professor of Business Economics and Finance.

Lee G. Cooper, Ph.D., Associate Professor of Management in the Arts and Human Systems Development.

John R. Dominguez, Ph.D., Associate Professor of Business Economics.

Richard A. Goodman, D.B.A., Associate Professor of Management.

Michael E. Granfield, Ph.D., Associate Professor of Business Economics.

J. Morgan Jones, Ph.D., Associate Professor of Management.

Larry J. Kimbell, Ph.D., Associate Professor of Managerial Economics.

Clement Krouse, Ph.D., Associate Professor of Business Economics.

William R. Mawson, Ph.D., Associate Professor of Accounting and Information Systems.

Bill McCallum, Ph.D., Associate Professor of Management and Organizational Behavior.

Ephraim R. McLean, Ph.D., Associate Professor of Information Systems.

Frank E. Norton, Ph.D., Associate Professor of Business Economics.

Alfred H. Osborne, Jr., Ph.D., Associate Professor of Management.

Hans Schollhammer, D.B.A., Associate Professor of Management.

Shahid L. Ansari, Ph.D., Assistant Professor of Accounting and Information Systems.

William T. Bailey, Ph.D., Assistant Professor of Accounting and Information Systems.

David M. Boy, Ph.D., Assistant Professor of Management.

John M. Clapp, Ph.D., Assistant Professor of Urban Land Economics.

Thomas F. Copeland, Ph.D., Assistant Professor of Finance.

Robert Geske, Ph.D., Assistant Professor of Finance.

Dominique M. Harwood, Ph.D., Assistant Professor of Marketing.

Anne Sigrist Hult, Ph.D., Assistant Professor of Management.

James G. Manegold, Ph.D., Assistant Professor of Accounting and Information Systems.

Ronald W. Masulis, Ph.D., Assistant Professor of Managerial Economics and Finance.

Lauren K. Newton, Ph.D., Assistant Professor of Accounting and Information Systems.

Richard P. Runelt, D.B.A., Assistant Professor of Business Policy and Management.

Carol Anne Scott, Ph.D., Assistant Professor of Marketing.

E. Burton Swanson, Ph.D., Assistant Professor of Computers and Information Systems.

Barbara A. Veach, Ph.D., Assistant Professor of Marketing.

William M. Zmuda, Ph.D., Assistant Professor of Public Sector Management.

* Williams H. Bresanem, M.B.A., Lecturer in Management.

Grady D. Bruce, Ph.D., Visiting Professor of Marketing.

B. C. Carmichael, Ph.D., Lecturer in Computers and Information Systems.

Peter Tshu-Chen Chen, Ph.D., Acting Associate Professor of Computer Science.

Imran S. Currim, M.B.A., M.S., Acting Assistant Professor of Marketing.

Jason L. Fand, Ph.D., Lecturer in Management.

Abbot Kaplan, Ph.D., Visiting Professor of Arts Management.

Patricia O'Mara Katsky, Ph.D., Lecturer in Management.

John L. Lasko, Ph.D., Lecturer in Behavioral Science.

Sev Neumann, Ph.D., Visiting Associate Professor of Computers and Information Systems.

Paul Paezow, Ph.D., Senior Lecturer in Industrial Relations, and Research Economist, Institute of Industrial Relations.

Warren H. Schmidt, Ph.D., Emeritus Senior Lecturer in Behavioral Science.

Edward V. Sedgwick, Ph.D., Lecturer in Management.

**Note:** For key to symbols, see page 74.
113C. Interactive Computing for Management. Prerequisite: Engineering 10 or course 113A or 404 or equivalent experience with some general purpose programming language. Conversational, interactive computing for management applications. Problem logic, array processing, file handling, formatting and report generation, graphics, and user dialogues are covered. Examples are drawn from various aspects of management. Extensive programming assignments (using APL) are required. Mr. McLean

115. Business Statistics. Prerequisite: Mathematics 2, 4A-4B, or the equivalent. Elements of probability, probability distributions, estimation and confidence intervals, tests of significance and of hypotheses, linear regression and correlation, time series analysis, and principles of index numbers. Applications to the analysis of and the decision-making aspects of everyday business problems. The Staff

116A. Statistical Methods: Decision. Prerequisite: course 115 or graduate status. Statistical decision under uncertainty; statistical decision rules and their evaluation; Bayesian inference; applications to business problems. Mr. Jones, Mr. Lippman, Mr. Nelson

120. Intermediate Accounting. Prerequisite: courses 1A-1B or consent of instructor. The preparation of the principal accounting statements, recording, valuation, and presentation of cash, temporary investments, receivables, inventories, investments, plant and equipment, intangibles, current obligations, long-term debt, paid-in capital and retained earnings; statement of application of funds. The Staff

120M. Management Accounting. Prerequisite: course 120 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. The Staff

122. Cost Accounting. Prerequisite: course 120 or consent of instructor. 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. Mr. Bailey and the Staff

124. Advanced Accounting. Prerequisite: courses 120, 122, or consent of instructor. 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. Mr. Bailey and the Staff

130. Business Finance. A study of the forms and sources of financing business firms large and small, corporate and nonprofit. The emphasis is on financial planning and developing judgment in formulating decisions on financial problems. Financial problems are also considered in their social, legal, and economic aspects. Mr. Anderssen, Mr. Domínguez, Mr. May

133. Investment Principles and Policies. Principles underlying investment analysis and policy; salient characteristics of governmental and corporate securities; policies of investment companies and investing institutions; relation of investment policy to money markets and business fluctuations; security price-making forces; construction of personal investment programs. Mr. Eiteman, Mr. Shelton, Mr. Smith

135. Principles of Insurance. Basic principles of life and property insurance and their applications to business management and personal affairs. Analysis of concepts and methods of handling risks; insurance carriers, contracts, and underwriting; loss prevention and settlement; government insurance programs; economic functions of insurance. Mr. Hofflander

140. Elements of Production and Operations Research. Corequisite: course 111 or equivalent. Principles and decision analysis related to the effective utilization of the factors of production in manufacturing and nonmanufacturing activities for both intermittent and continuous systems. The study of production organizations, analytical models and methods, facilities design, and the design of control systems for production operations. The Staff

150. Elements of Industrial Relations. Principles and methods of effectively utilizing human resources in organizations. The relationship between social, economic, and other environmental factors and current problems in industrial relations. Mr. Fogel, Mr. Hutchinson, Mr. Mitchell

160. Elements of Marketing. A survey of the major marketing methods, institutions, and practices. The subjects of selling, wholesaling, distribution channels, marketing legislation, advertising, cooperative marketing, pricing, marketing research, and market development are treated from the standpoint of consumers, middlemen, and manufacturers. Mr. Kassarjian

163. Advertising Principles and Policies. Prerequisite: course 160. The preparation, use, and administration of advertising, emphasizing the use of research to direct and measure the effectiveness of each stage in the operation. The economic and social implications of advertising also are evaluated. Mr. Kassarjian, Ms. Scott

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 site selection, decision making as it relates to all aspects of building, financing, managing, marketing, and using urban property. Mr. Case, Mr. Clapp, 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 groups. Group discussion and group process, including group leadership. Lectures and "sensitivity training" laboratory. Mr. Culbert, Ms. Lasko, Mr. Massarik

190. Management Theory and Policy. Prerequisite: consent of instructor. A study of the basic concepts and theory of management. Emphasis is on operational analysis of the manager's role in all types of organizations. The course deals with management issues in the areas of planning, organizing, staffing, directing, and controlling. Mr. Carrabino and the Staff
191. Judgment of Systems and Systems of Judgment. Prerequisite: upper-level standing; well qualified lower-division students may be admitted with consent of instructor. The process-oriented decision making, from the "systems" viewpoint, with attention focused on the crucial issue of "asking the right questions." Emphasizes complex social/political/economic/professional problems where pertinent facts, causes, and action alternatives are largely matters of judgment. Mr. Jackson

197. Special Topics in Management. Topics of special interest to undergraduate students. Specific subjects to be covered may change each quarter depending on particular interest of instructors or students. May be repeated for credit. The Staff

199. Special Studies in Management. (4 to 2 courses) Prerequisite: senior standing and consent of instructor and the dean by special petition available in the MBA Program Office. The Staff

GRADUATE COURSES (numbered 200-299) Graduate courses are ordinarily open to students admitted in graduate status. As a condition for enrollment, the student 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 Model of the Economy. Prerequisite: course 405 or Econometrics 145 or consent of instructor. Contemporary business economic principles of resource allocation and the price system are developed. Classical optimization and comparative statics techniques are set forth and applied to the models of consumer choice and firm and general production-exchange equilibrium models.

Mr. Granfield, Mr. Krouse, Mr. Osbourne

200B. Techniques of Business Economic Analysis: Economic Techniques for Business Economists. 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, Mr. Krouse, Mr. Mayers

201A. Business Forecasting. Prerequisite: courses 100, 101, or 405, 406 and 115 or 2. The role of business forecasting in managerial planning. Principles and techniques for evaluating the reliability of existing forecasting techniques. Covers both short-term and long-term forecasting of industry, regional, and national business trends.

Mr. R. H. Williams

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.

Mr. Andersen, Mr. Kimbell

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.

Mr. Kimbell, Mr. R. H. Williams

201D. Economic Policy and Business Environment. Prerequisite: consent of instructor. Analysis of economic policies shaping the business policy: stabilizing policy instruments; structural policies for efficiency and progress; policy needs for the future. Trade policy formation and ads are largely as well as design.

Mr. Granfield, Mr. Jacob, Mr. Nicols

202A. Economic Theories of Business Behavior: Marginal, Managerial, and Behavioral. Prerequisite: course 201A. The economic behavior of the firm and firm groups is considered. Theories extending from those which retain marginal analysis to treat alternative corporate objectives to those viewing the firm as an adaptive mechanism with limited cognitive and information processing capabilities.

Mr. Krouse, Mr. Nicols, Mr. Weston

202B. Principles of Industrial Organization. Prerequisite: course 200A. The course develops analysis principles necessary for understanding the characteristics of the industries. Industries range from substitutability to firm industry and comparison of alternative classification schemes to the relationships among industry structure, conduct, and performance.

Mr. Granfield, Mr. Krouse, 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 examined. Implications of such industry characteristics are derived for decisions having to do with firm output, prices, advertising, and research development.

Mr. Krouse, Mr. Nicols, Mr. Weston

202D. The Organization of Industry and Business Policy. Prerequisite: course 202C. Analysis of economic aspects of long-range planning of firms with respect to horizontal expansion, vertical integration, and diversification, especially the review of statutory and legal decisions affecting internal and external expansion policies.

Mr. Granfield, Mr. Nicols, Mr. Weston

203A. Economics of Decision. (Same as Economics M203A) Prerequisite: rudiments of economic theory, calculus, and probabilities of course 116A; course 203A, or consent of instructor. Optimal decision and information rules. Amount, cost, and value of information.

Mr. Granfield, Mr. Nicols, Mr. Weston

203B. Economics of Information. (Same as Economics M203B) Prerequisite: rudiments of economic theory of the firm, and of calculus and probabilities or statistics (e.g., course 116A); course 203A, or consent of instructor. Optimization and decision rules. Amount, cost, and value of information.

Mr. Granfield, Mr. Nicols, Mr. Weston

204A. International Business Economics. Prerequisite: courses 405, 406, or consent of instructor. The international business environment, international economic institutions, national and regional economic policies, and the competitive position of foreign markets, international monetary problems are studied for their influence on the organization and operation of the international corporation.

Mr. R. H. Kimbell, Mr. Schillhammer

204B. Comparative Market Structure and Competition. Prerequisite: course 204A or consent of instructor. A comparative study of public policies toward competition, market structures, and competitive practices in key industries in selected countries.

Mr. Nicols, Mr. Osbourne, Mr. R. Williams

205A. International Business Economics. Prerequisite: courses 405, 406, or consent of instructor. The international business environment, international economic institutions, national and regional economic policies, and the competitive position of foreign markets, international monetary problems are studied for their influence on the organization and operation of the international corporation.

Mr. R. H. Kimbell

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.

Mr. Nicols, Mr. Osbourne, Mr. R. Williams

206. Selected Topics in Business Economics. Prerequisite: consent of instructor. Selected topics in business economics. Current development in theory or practice in business economics. May be repeated for credit.

The Staff

210A. Mathematical Programming. Prerequisite: Mathematics 31C. A comprehensive development of the theory and computational methods of linear programming, with applications to business and related disciplinary areas.

Mr. Geoffrion, Mr. Graves

210B. Applied Stochastic Processes. Prerequisite: Mathematics 150A or Engineering 120A. Stochastic sequential decision processes. The use of dynamic programming, recursive techniques and network flows. Applications to various allocation, coordination, scheduling, and sequencing problems.

Mr. Geoffrion, Mr. Graves

211A. Nonlinear Mathematical Programming. Prerequisite: Mathematics 31A. Theoretical foundations and application of the optimization of nonlinear systems. Review of classical optimization methods; optimality and duality theory for convex programs; main computational approaches to convex programming; survey of current computer codes and computational experience.

Mr. Geoffrion, Mr. Graves

211B. Large-Scale Mathematical Programming. Prerequisite: two quarters of previous work in linear and nonlinear programming. Theory and computational methods for optimizing large-scale linear and nonlinear programs. Exploitation of special structures with combinatorial, 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 Model I. Prerequisite: Mathematics 31C or equivalent. The use of linear models in the analysis of their extensions in decision making. Formulation and application of linear, network, and integer models in finance, production, distribution, marketing, and public systems. Fundamentals of solution methods and applications in analysis.

Mr. Erlenkotter, Mr. Geoffrion

212B. Management Science Model II. Prerequisite: Mathematics 32A, course 212A, or equivalent. The use of linear and time-staged dynamic models for managerial decision making. Applications in finance, marketing, production, facilities design, and energy systems. Survey of nonlinear and dynamic programming solution methods.

Mr. Erlenkotter, Mr. Geoffrion

212C. Management Science Model III. Prerequisite: courses 212A, 212B, and 212D. The use of probability models for decision making under uncertainty. Stochastic programming; probabilistic dynamic programming; Markovian and waiting line models. Applications in finance, production, marketing, and other systems.

Mr. Erlenkotter, Mr. Jones

213A. Intermediate Probability and Statistics. Prerequisite: previous course work in statistics and mathematics. An introduction to probability theory and hypothesis testing as applied to management.

Mr. Jones, Mr. Mullin

213B. Statistical Methods in Management. Prerequisite: course 213A or consent of instructor. An introduction to parameter and interval estimation, simple and multiple linear regression and correlation, fixed, random, and mixed effects analysis of
variance models and non-parametric statistics, as well as they apply to management studies.

Mr. Cooper, Mr. Jones, Mr. Lipman

213C. Introduction to Multivariate Analysis. Prerequisite: 213B or consent of instructor. Introduction to multivariate technology used in research in socio-technical systems, marketing, psychology, education, and sociology. This course will provide understanding in analysis of variance, regression, analysis of covariance, multivariate analysis of variance, discriminant analysis, canonical correlation, and factor analysis.

Mr. Cooper, Mr. Hansens

214B. Behavioral Science Models. Prerequisite: consent of instructor. Formulation, analysis, and interpretation of mathematical models in the behavioral sciences. Emphasis on stochastic process models for aspects of individual and group behavior such as learning, problem solving, classification, communication, bargaining, and social exchange systems. Mr. MacQueen

215D. Time Series Analysis. Prerequisite: course 116B or consent of instructor. Econometric models and advanced time series analysis in measuring trends and fluctuations in business series, electronic computers in the analysis of business series; input-output analysis; the learning curve. Mr. Granfield and the Staff

215E. Statistical Design of Surveys. Prerequisite: course 116B or equivalent. Mathematical theory and practices of statistical survey design and analysis. Mr. Jessen

216A. Simulation of Operational Systems. Prerequisite: courses 113B, 402, or equivalent background in batch computing (AFL is not suitable) and a course in computer simulation methodology, including: design, validation, operating procedures, and analysis of results of simulation experiments. Applications of simulation to management problems. Mr. Nelson

216B. Advanced Computer Simulation. Prerequisite: course 216A. Advanced use of computer simulation techniques. Major term projects will be undertaken, either singly or in groups, with the object of developing the students the ability to accomplish all phases of the design and execution of computer simulation. Mr. Nelson

217A. Statistical Decision Theory. Prerequisite: course 116A or equivalent; Mathematics 152A recommended. Relationships among statistical decision theory, game theory, and classical statistical inference; use emphasis on sequential analysis and dynamic decision processes; axiomatic foundations, Bayes' and minimax solutions, applications to selected models of dynamic decision problems in business, economics, psychology. Mr. Nelson

217B. Game Theory. Prerequisite: course 116A; Mathematics 152A recommended. Nature of models for rational behavior in presence of conflicts of interests, zero-sum and nonzero-sum games, two-person and many-person games, state of the art, philosophical and computational limitations, relations with individual and group decision making. Mr. Jackson, Mr. MacQueen

218A. Selected Topics in Operations Research. (4 to 1 course) Prerequisite: consent of instructor. New developments in optimization techniques have included reliability and optimal maintenance theory, large-scale distribution/inventory systems, and Markovian decision processes under uncertainty. May be repeated for credit. The Staff

218C. Selected Topics in Business Statistics. (4 to 1 course) Prerequisite: consent of instructor. Special topics in statistical methods. Current developments in statistical theory and practice. Analysis of recent literature. Topics and instructors will vary. When they become known, may be repeated for credit. The Staff

218D. Current Problems in Operations Research. (4 to 1 course) Current research on a variety of topics in the general area of operations research, presented by invited university and outside speakers. May be repeated for credit. The Staff

218XYZ. Current Issues in Operations Research. (4 to 1 course) Current issues and research on a variety of topics in the general area of operations research. May be repeated for credit. The Staff

220A. Technical Foundations in Accounting. Prerequisite: course 403 or consent of instructor. The role of accounting in the internal management of enterprises is emphasized. Topics include accounting in planning, with reference to human resources management; investment analysis, cost accounting systems; role of accounting in tax planning, forecasting, budgeting; financial and operational auditing. Mr. Bailey, Mr. Manegold

220B. Financial Accounting I. Prerequisite: consent of instructor. The course deals with concepts and principles of financial accounting with emphasis upon the pronouncements of the AICPA. Current practice in the recording, valuation, and presentation of financial statements is reviewed. Application of these principles to contemporary problems is stressed. Mr. Bailey, Mr. Manegold

220C. Financial Accounting II. Prerequisite: consent of instructor. In addition to providing a continuing study of technical books in financial accounting and auditing, the course gives special attention to a range of topics which include accounting for partnerships, mergers, combinations, and parent/child relationships. Litigation procedures are reviewed, including recognition, recovery, and bankruptcy. Mr. Bailey, Ms. Newton

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. The Staff

222. Cost Accounting. Prerequisite: course 220A or consent of instructor. The nature, objectives, and procedure of cost accounting 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. Mr. Ansari, Mr. McDonough, Ms. Newton

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. Kircher

224A. Computer Systems. Prerequisite: course 225A and either 113B or 113C or consent of instructor. Specific applications of computer-based systems for management applications. Methods for costing system hardware and software and for assessing computer performance. Trade-off analysis of computationally feasible computer configurations. Case materials and/or actual examples are used. Mr. Lientz

224B. Management of Computer-Based Information Systems. Prerequisite: course 224A or consent of instructor. An in-depth coverage of the problems in management of computer-based 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 information systems. Includes studies of existing systems, economic and organizational analyses of alternatives, and tools for determining user requirements. Case materials and/or actual examples are used. Mr. Chen, Mr. Lientz, Mr. Sprowls

224D. Generalized Data Base Management Systems. Prerequisite: course 113B or 113C or consent of instructor. Examines the features and capabilities of generalized data base management systems. Includes system classification, comparison of software, and design of systems for management information. Emphasis is upon management uses of such systems. A field study project may be required. Mr. Chen, Mr. Sprowls

224E. Computer Simulation for Management. Prerequisite: Engineering 20 or course 113B or 113C or consent of instructor. The use of computer simulation and to general purpose simulation languages (e.g., GPSS, SIMSCRIPT, DYNAMO). Emphasis upon the managerial use of simulation and the development of computer-based models for problem solving and policy analysis. Programming assignments are included. Mr. Chen

224F. Telecommunications and Computer Networks. Prerequisite: course 224A or consent of instructor. Distributed processing. Networked minicomputer systems. Data communication technology. Data security in computer networks. Cost/benefit analysis for the design, configuration, and implementation of computer networks. Applications to computer utilities, command and control systems; and commercial, medical, and government networks. Mr. Lientz

224G. Special Topics in Computing. Prerequisite: consent of instructor. An examination in depth of issues or problems concerned with the theory and practice of computing and the use of EDP systems. Course may have a single theme or may deal with a number of topics. May be repeated for credit. The Staff

225A. Introduction to Information Systems. Prerequisite: course 403 or consent of instructor. Basic concepts and rules of information systems in organizations. Fundamental design considerations. The role of data processing. Examples of information systems in profit and non-profit organizations. Mr. McLean, Mr. Swanson

225B. Information Systems for Planning and Control. Prerequisite: course 403 or consent of instructor. Design of systems to produce information for planning and control. Survey of approaches and techniques employed at the strategic, managerial, and operational levels. Special consideration of accounting and budgeting methods. Impact of planning and control information on human behavior. Mr. Flamholtz, R.O. Mason, and 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 information systems, from the standpoint of mathematical, economic, behavioral, and organizational considerations. R.O. Mason, Swanson

225D. Special Topics in Information Systems. Prerequisite: open primarily to Ph.D. candidates or with consent of the 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 research doctoral candidates, the academic staff, or distinguished visiting faculty. May be repeated for credit. The Staff

226. International Accounting. Prerequisite: graduate status. Comparative analysis of accounting concepts and practices in other countries; study of current issues and international systems. Emphasis on international systems. May be repeated for credit. The Staff

227A. Tax Accounting. Prerequisite: course 220A or consent of instructor. 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. The Staff
227B. Taxation and Business Policy. Tax systems, tax shifting and burden theory. Impact of taxation law and theory on business decisions. Application of tax planning. The businessman and tax reform. The Staff

229A. Accounting Theory. Prerequisite: consent of instructor. A survey of accounting literature, with emphasis on the development of basic accounting concepts. May be repeated for credit. Mr. Ansari

229B. Research Methodology in Accounting. Prerequisite: course 229A or consent of instructor. Design of empirical research and research methodology in accounting. Sources of research problems. Research conduct and methodology in accounting and other fields as they relate to accounting. Mr. Buckley, Mr. Flamholtz, Mr. Manegold

229C. Special Topics in Accounting. Prerequisite: open primarily to Ph.D. candidates or with consent of instructor. 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 community, and distinguished visiting faculty. May be repeated for credit. The Staff

230. Theory of Finance. (Formerly numbered 231B.) Prerequisite: course 408. Concerned with decision making under uncertainty, the theory of asset prices, and the analysis of production and consumption decisions. 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. Cottle

231A. Profit Sector Financial Policy. Prerequisite: course 230. Identifying and solving financial problems through the use of cases. Stresses the application of financial theory and financial techniques to business problems, using written reports and classroom discussion. Mr. May, Mr. Mayers, Mr. Weston

231B. Nonprofit Sector Financial Policy. Prerequisite: course 408. Identifying and solving financial problems for all types of nonprofit organizations through use of cases. Stresses possible application of financial theory for profit-oriented firms. Particular attention to unique problems of resource allocation when market valuation cannot be used as a criterion. Mr. Copeland, Mr. Smith

231C. Working Capital Management. Prerequisite: courses 230 and 231A. More detailed and advanced coverage of the short-run problems of financial management. Coverage of current assets, current liabilities, and their interrelationships. Mr. Eiteman, Mr. Smith

231D. Applications of Quantitative Methods in Finance. Prerequisite: course 230 and other 230-level seminars. Applications of multiple regression, mathematical programming, and stochastic processes to more complex problems of financial decision making. Comparison of solutions from alternative quantitative methods. Mr. Mayers, Mr. Smith

232A. Security Analysis. Prerequisite: course 230. Primarily a course in stock market investing, but approach is applicable to all investment assets. Includes techniques of security analysis and security valuation based on financial statements of the organization. Mr. Eiteman, Mr. Roll, Mr. Shelton

232B. Portfolio Management. Prerequisite: course 230. Focus on entire portfolios rather than individual assets. Review portfolio theory as applied to portfolio decision making and the evaluation of portfolio performance. Case studies of portfolio construction. Mr. Geske, Mr. Masulis, Mr. Smith

232C. Investment Theory. Prerequisite: courses 232A and 232B or consent of instructor. Review of theoretical literature on investment analysis, valuation, and management. Topics include mathematical techniques for valuation of growth securities, competitive returns on alternative investments, the investment decision process, computers in investment decision making, and functioning of securities markets in the U.S. and abroad. Mr. Krouse, Mr. Shelton, Mr. Smith

233A. Money and Capital Markets. (Formerly numbered 233A.) Prerequisite: course 230. Application of interest theory and flow funds analysis to the price determination process in the markets for bonds, mortgages, stocks, and other financial instruments. Study of funds flow from credit markets. Analysis of costs of capital in individual industries. Mr. Andersen, Mr. Dominguez, Mr. Roll

233B. Financial Institutions. (Formerly numbered 230B.) Prerequisite: courses 230 and 233A. Study of the financial policies and practices of commercial banks, savings and loan associations, pension funds, insurance companies, and other major financial institutions. Review of current major problems facing senior managers of these financial institutions. Mr. Mayers, Mr. Roll, Mr. Weston

233C. Speculative Markets. Prerequisite: course 230. Study of the theory and evidence of capital market efficiency including the stock market, the bond market, commodity future markets, the options market, money markets, and foreign exchange markets. Mr. Copeland, Mr. Masulis, Mr. Roll

234A. Multinational Business Finance. (Formerly numbered 233A.) Prerequisite: courses 205A and 408; in addition, course 230 is recommended for students with little background in finance. Multinational business finance is concerned with the international financial environment, problems surrounding the decision to commit long-term capital to an international venture, and financial techniques for the daily operations of the firm. Mr. Dominguez, Mr. Eiteman, Mr. Weston

234B. Advanced Studies in International Finance. Prerequisite: courses 230 and 234A. Study of current and important issues of international financial management. Major focus on the interrelation of advanced theoretical concepts and their implications for the business firm in its international financial management decisions. Mr. Eiteman, Mr. Weston

235A. Problems in Insurance Management. Prerequisite: course 135 or consent of instructor. Advanced consideration of the problems of insurance management. Treats the actual underwriting, investment, marketing, and regulatory problems relating to insurance activities. Mr. Hofflander

235B. Risk and Risk Bearing. Prerequisite: course 135 or consent of instructor. Advanced consideration of the theory of risk and risk bearing. The analysis of alternative ways of meeting risk and uncertainty, the scope and limits of insurance, and the economics of insurance. Mr. Hofflander

236. Special Topics in Finance. Prerequisite: course 230 and consent of instructor. Course intended for students with special interest in specific problems in finance. Mr. Lippman

237. Theory of Exchanges and Under Uncertainty. Prerequisite: course 230 and consent of instructor. Foundations of the theory of exchanger and investment decisions are developed with special attention to questions of exchange and allocative efficiency. Course primarily intended for doctoral students, but well-prepared master’s students may also benefit if they find the course useful in their career preparation. Mr. Copeland, Mr. Masulis, Mr. Meyers

239C. Empirical Research in Finance. Prerequisite: course 230, training in econometrics, and consent of instructor. In-depth study of empirical research in finance. Emphasis will be placed on the use of econometric techniques in asset pricing, capital asset pricing, and option pricing. Course is primarily intended for doctoral students, but well-prepared master’s students may find the course useful in their career preparation. Mr. Roll

239D. Doctoral Seminar in Finance. Prerequisite: course 230 or consent of instructor. An attempt to relate research conducted in the field of finance to more complex problems for all types of nonprofit organizations. Research methodology and empirical research. May be repeated for credit under different Finance faculty members. The Staff

240A. Aggregate Planning and Work Force Scheduling. Prerequisite: course 240B. Control of production and capacity decisions for short-term planning and scheduling in aggregate terms. Theoretical models and management practices in manufacturing and service operations. Model formulation that allocates production, capacity, and inventories where appropriate, backordering shortages, and outside capacity. Mr. Bufa, Mr. Nelson

240B. Scheduling and Control of Operations. Prerequisite: course 407 and 401 or consent of instructor. Detailed short-term scheduling and control of production and capacity operation. Identification of objectives and performance criteria for evaluating scheduling and control procedures. Classification of production and service systems. Scheduling problems and solution approaches for different types of systems. Mr. Davis

240C. Design of Operational Systems. Prerequisite: course 410. Issues in selection of the capabilities, characteristics, and configuration of service and manufacturing systems as part of overall strategy for attaining organizational goals; planning of capacity, location, processes/technologies, facilities, organizational structures, and jobs. Mr. Andrews, Mr. Erlenkotter

241. Technological Bases of Jobs and Organizations. Prerequisite: consent of instructor. Technological determinants of operating systems and jobs. Faculty will cover models underlying operating system design, technology, and social system design; operating system variability, control, and measurement. Mr. Davis

242A. Planning for Facilities Systems. Prerequisite: course 212A or equivalent. Planning of the location, expansion, and replacement of facilities. Emphasis on plants and systems of facilities. Examination of spatial and dynamic economic considerations. Applications in selected industries and public systems. Mr. Erlenkotter

243A. Project Management. Prerequisite: course 407 or equivalent. Management of development projects. Decision-making environment, economic analysis, network analysis, scheduling, and control of development projects. Sequential and aggregate development decisions. The Staff

243B. Inventory Theory. Prerequisite: course 210B or consent of instructor. General discussion of inventory models with emphasis upon characterizing the form of optimal policies and efficient computational methods. Both deterministic and stochastic and discrete and continuous time models are considered. Mr. Nelson

243C. Scheduling Theory: Models for Operations Management. Prerequisite: course 407. Scheduling models and results for single machine, flow shop, job shop, and resource-constrained project networks. Approaches studied include classical mathematical programming and heuristic approaches; current research in coordinated interaction of computer models, and man-machine interaction. Mr. Nelson

244. Policy Issues in the Management of Operations. Prerequisite: second-year status. Case analyses centering on the operations phases of
250A. Human Resource Management. Prerequisite: consent of instructor. First part of a two-course sequence focusing on the processes and problems of managing human resources. Topics include people as resources; nature of human resource management; human resource planning; designing and organizing work and task roles; and acquiring and allocating people.

Mr. Fogel, Mr. Massarik

250B. Human Resource Management. course 250A. Topics include development and training; human resources accounting; behavioral foundations of management motivation; motivation, productivity, and satisfaction; design reward systems; and evaluation of organization effectiveness. Emphasis on understanding, predicting, and influencing human organizations.

Mr. Kleingartner, Mr. Massarik

250C. Systems of Employee-Management Participation. Prerequisite: consent of instructor. Course designed to provide understanding of systems of employee-management participation around the world (e.g., works councils, profit sharing). Specific concepts such as worker participation in decision making, industrial democracy, joint consultation, workers' councils, profit sharing will be covered.

Mr. Adizes, Mr. Meyers

251. The Management of Labor Relations. Consideration, at an advanced level of the collective bargaining process, the labor-management agreement, the administration of the contract, and the impact of public policy on the management of industrial relations. Topics to be presented as and visiting lecturers will be part of the seminar curriculum.

Mr. Hutchinson, Mr. Meyers

252. Law and Governmental Policy in Industrial Relations. Prerequisite: course 409. Governmental policies on employer-employee relations; historical background; constitutional and common law principles; application of Taft-Hartley, Labor Reform, Anti-trust, Anti-Injunction, Fair Labor Standards, Workmen's Compensation, and other acts; trends and proposed legislation, labor-management affairs.

Mr. Fogel, Mr. Meyers, Mr. Mitchell

253A. Negotiation and Conflict in Organizations. Prerequisite: graduate status. The occurrence and management of differences throughout the organization. Furnishes a multidisciplinary understanding of conflict resolution, process plus an appreciation of critical parameters shaping conflict in specific organizational arenas. Also reviews the arsenal of conflict-management techniques.

The Staff

253B. Conflict Resolution in Labor-Management Relations. Prerequisite: graduate status. Analysis of conflict in the employment relationship. Theoretical and empirical findings are examined. Principles and philosophies that underlie resolution of labor-management impasses are considered. Emphasis on grievance procedures, arbitration, mediation, and factfinding.

Mr. Prasow

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. Hamilton, Mr. Mitchell

255. Comparative Industrial Relations. Prerequisite: course 409 or an elementary knowledge of labor economics. At national and international level, historical and contemporary analytical comparison of industrial relations systems within their political, economic, social, and cultural 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, Mr. Meyers

257. Labor-Management Relations in Public and Nonprofit Organizations. Graduate status. Analysis of labor-management relations in government, including public education and in nonprofit institutions (e.g., artistic, cultural, recreational, and health care). Emphasis is on negotiations and group relationships other than on public personnel administration.

Mr. Kaplan, Mr. Prasow, and the Staff

258. Selected Topics in Industrial Relations. (1 to 2 courses) Prerequisite: open primarily to Ph.D. candidates but also to other advanced graduate students. An examination of the nature of problems and issues of current concern in industrial relations. Emphasis on recent contributions to theory, research, and methodology of special interest to advanced doctoral candidates, the academic staff, or distinguished visiting faculty. May be repeated for credit.

The Staff

259A. Manpower Planning and Evaluation. Prerequisite: course 254 recommended. The development of programs and practices to meet manpower goals of individual labor force participants, business firms, and communities. Examination of methods and techniques for the evaluation of such programs.

Mr. Fogel, Mr. Mitchell

259B. Utilization of Minority Manpower. Prerequisite: course 254 recommended. Examination of the experience of minority groups — blacks, Chicano, women, and others — in labor markets and employing institutions (business firms, government, unions). Consideration of equal employment opportunity programs in firms and of societal anti-discrimination programs. Guest lecturers will be appropriate.

Mr. Fogel

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, Mr. Weitz

260B. Marketing Strategy and Planning. Prerequisite: course 260A or consent of instructor. A framework for strategic marketing planning is developed. The cornerstone of the course are a few commercially successful firms which have broad application. Within the framework of the strategic marketing plan, key elements in the annual marketing planning process will be developed.

Mr. Adizes

260C. Management in the Distribution Channel. Prerequisite: course 260A or consent of instructor. An examination of decisions in the distribution channel. Issues of power in the distribution channel and the tradeoffs between alternative channels are discussed.

Mr. Scott, Mr. Weitz

261B. International Marketing Management. Prerequisite: course 260A or consent of instructor. Opportunities, distinctive characteristics, and emerging trends in foreign markets are analyzed. Includes an exploration of alternative methods and strategies; organizational planning and control; impact of social, cultural, economic, and political differences; and problems of adapting American marketing concepts and methods.

Mr. Hansenset, Mr. Weitz

262. Price Policies. Prerequisite: course 260A or consent of instructor. Consideration of such concepts as product classification, demand, competition, and costs, as they apply to price making. The process of price forecasting, the role of 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. Miklos and the Staff

263A. Consumer Behavior. Prerequisite: course 411 or consent of instructor. A study of the nature and determinants of consumer behavior. Attention will be focused on the influence of socio-psychological factors such as personality, small groups, demographic variables, social class, and culture on the formation of consumers' attitudes, consumption and purchasing behavior.

Mr. Peter, Mr. Kassarjan, Mr. Lutz

263B. Theory of Marketing Stimulation. Prerequisite: course 263A. Analysis of factors influencing consumer demand. Techniques for stimulating demand are evaluated in relation to specific objectives such as sales and market share from economics, psychology, sociology, anthropology, and marketing research.

Mr. Kassarjan, Mr. Lutz

264A. Marketing Research: Design and Evaluation. Prerequisite: course 411 or consent of instructor. An examination of methods of measuring and predicting the forces affecting marketing, including quantitative aspects of demand, consumer reaction to product characteristics, effectiveness of advertising and other promotional devices, influence of rewards and organizational systems on sales efficiency, and
effective competition.

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 will be focused on applications to specific problems as brand switching, media selection, pricing, competitive strategy, scheduling, allocation problems, and waiting time.

Mr. Bettman, Mr. Hansens, Mr. Jones

264C. Seminar in Multidimensional Scaling. Prerequisite: consent of instructor. A seminar in a seminar providing for the study of recent developments in metric and nonmetric multidimensional scaling. Mr. Cooper

265A. Marketing and the Law. Prerequisite: course 260A or consent of instructor. A detailed study of the legislative enactments (federal, state, or local) which influence the business engaged in marketing activities, together with an analysis of the judicial decisions which have interpreted these laws. Mr. Kassarjan

265B. Social Issues in Marketing. Prerequisite: course 260A or consent of instructor. Environmental impact of marketing in society; study of theories, methods, and relationships for evaluating transaction behavior in a scientific and humanistic context; macroanalytic perspectives in marketing. The Staff

266A. Product Management. Prerequisite: course 260A. This course develops a framework for identifying and appraising alternative growth strategies of the firm. Product addition, modification, and deletion are examined; and the role of sales force management in these decisions is discussed. The Staff

266B. Advertising Policy. Prerequisites: courses 260A, 263A, or consent of instructor. A study of the formulation of advertising policies, involving an analysis of the role of advertising in marketing, objectives and strategic options, roles and responsibilities in advertising, the definition of advertising objectives, strategy, appropriation policy, media selection, evaluating advertising results, and the organization of the advertising function. Mr. Lutz

266C. Sales Force Management. Prerequisite: course 411 or consent of instructor. This course develops a logical framework for the solution of sales problems in sales force management. It covers the role of the sales force, sales force management, sales interaction, and key problems in planning, organizing, evaluating, and controlling the sales force. Mr. Weitz

267. Macromethodological Issues in Research on People and Their Behavior. This 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 questioning of data language. Mr. Cooper

268. Selected Topics in Marketing. (¼ to ½ courses) Prerequisite: course 260A or consent of instructor. A study of selected areas of marketing knowledge and thought. Specific subjects discussed include application problems and key problems in planning, organizing, evaluating, and controlling the sales force. The Staff

270. Environment of the Art World. Prerequisite: consent of instructor. Consideration and assessment of the political, social, economic, and environmental forces in American society as they affect the existence and development of art institutions in the U.S. The aim is to explore present policies and trends and potential future developments. Mr. Cooper

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 as a vis artist and arts manager, theories concerning the law and effects on the arts, and unsolved problems and issues in areas of interaction. The Staff

272A. The Role of Management in Artistic Decision Making. Prerequisite: consent of instructor. A descriptive study of the criteria for decision making in artistic institutions including the role of the institution in society, the economic environment of the arts, and the artistic value systems of arts organizations. Mr. Kaplan

272B. Programming and Planning Policies in Arts Organizations. Prerequisite: consent of instructor. An analysis of the social, artistic, and economic roles of the arts as reflected in programming policy. An examination of the social goals pursued in establishing relationships between the arts and their environment. The Staff

274. Current Issues in Arts Management. Prerequisite: consent of instructor. The seminar of the final quarter is viewed as the major vehicle in which current and current issues in the management of artistic institutions. Relevant combinations of lectures, discussions, case studies, and team research projects are employed. Mr. Cooper, Ms. Huff

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, urban growth and efficiency, urban sprawl, taxation, new towns, real estate and building industries. Mr. Clapp and the Staff

275B. Urban Land Economics. Prerequisite: course 175, 405, or consent of instructor. Introduction to development 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 urban land environment. Mr. Clapp, Mr. Mittelbach

275C. Alternative Urban Futures. Prerequisite: consent of instructor. The use of economic tools and business techniques for planning and forecasting alternative urban futures. Urban and World Dynamics models are used to analyze future urban and personal life under various assumptions about the shape, structure, and functions of future cities. Mr. Case, Mr. Mittelbach

276A. Theory of Urban Property Valuation. Prerequisite: course 408 or equivalent. Systematic analysis of the economic principles of real property valuation and taxation. Mr. McKelvey

276B. Comparative and International Urban Land Economics. Prerequisite: course 276A or consent of instructor. A study of the international and national factors influencing urban land development and the economic environment in which urban development takes place. Mr. McKelvey

276C. Urban Dynamics: Degeneration and Regeneration. Prerequisite: consent of instructor. Seminar which identifies, analyzes and evaluates problems and solutions concerning urban blight, urban deterioration, reclamation, reclamation, revitalization, and inter-governmental relations in the American city, with particular emphasis on the role of private enterprise in dealing with these problems. Mr. Mittelbach

277A. Housing Economics. Prerequisite: consent of instructor. Consideration of determinants of private and public demand for housing; housing income, government policies, and the question of rent regulation. Mr. Cooper

277B. Housing Policy. Prerequisite: consent of instructor. U.S. and foreign housing programs; housing low-income, single persons, families; improving environment, urban renewal and development and related topics. Criteria for assessing public policy, policy implementation, policy and stage of national economic development, the role of private enterprise. Mr. Case, Mr. Mittelbach

278A. Urban Real Estate Financing and Investing. Prerequisite: consent of instructor. Theoretical and pragmatic analyses are used to determine the role of real estate and financial institutions in determining real estate investment opportunities. Real estate investment opportunities are evaluated for their effectiveness in balancing personal and business investment objectives and public land use goals. Mr. Case, Mr. Clapp, Mr. Mittelbach

278B. Sources, Uses, and Flows of Real Estate Capital. Identification and analysis of sources and uses of real estate credit and equity funds. Policies and programs of lenders are related to real estate construction and market trends, and their effect on economic and housing policies and programs. Mr. Case, Mr. Clapp, Mr. Mittelbach

279A. Special Studies in Urban Land Economics. Open to master's or doctoral candidates working on thesis or dissertation related research. May be repeated for credit. Mr. Case

279B. Selected Topics in Urban Land Economics. Open to all graduate students who wish to pursue a particular topic in housing, real estate, or urban land economics in depth on an individual or cooperative basis. May be repeated for credit. Mr. Case

279Y-279Z. Urban Research and Development. (¼ to 1 course) Prerequisite: consent of instructor, graduate status. Exploration of urban and its problems: prospects and prescriptions for the recovery of a quality life. The exploration may be both macroscopic and microscopic as related to problems of a selected urban area. Mr. Case

280A. Important Studies in Human Systems. Prerequisite: enrollment in Ph.D. program or consent of instructor. Surveys seminal studies of human systems and policy making. Emphasis is placed on the evolution and current status of the field. Reviews such topics as personality, motivation, group and intergroup behavior, systems theory, and organizational design and development. Mr. McKelvey

280B. Survey of Research Philosophies and Methods. Prerequisite: enrollment in Ph.D. program or consent of instructor. Offers a broad introduction to objectivist and subjectivist philosophies and theories of science. Critiques laboratory and field experiments; field studies, analytical and descriptive methods; interview, participant observation, questionnaires and unobtrusive methods of data collection. Mr. Cooper, Mr. Massarik

280C. Personal and Professional Development. Prerequisite: enrollment in Ph.D. program or consent of instructor. Provides a setting where students may explore their own professional values in the process of testing and learning the values and standards important in the Human Systems Ph.D. program and held by the broader community of system researchers and interveners. Mr. Cull, Mr. Pardo

280D. Research Design for Human Systems Studies. Prerequisite: course 280A, 280C, or consent of instructor. A course designed to acquaint students with the specific research methodologies and research design strategies in the field of human systems research. Emphasis is placed on the role of research design in the development of human systems theory. Mr. Cooper

280E. Tutorial in Human Systems Research. Prerequisite: enrollment in Ph.D. program or consent of instructor. An individual and comprehensive program of research study under the direction of a faculty advisor. Mr. Cooper

280F. Human Systems Research Seminar. Prerequisites: courses 280D or consent of instructor. Exploration of various research methods and problems encountered in applying them. Students are
actively involved in seminar reports and in class critique of course members' dissertation research designs. May be repeated for credit.

Ms. Huff, Ms. Lasko

281A. Socio-Technical Systems. Prerequisite: graduate status. Introduces systems concepts and views work organizations as interacting social-technical systems open to forces from the surrounding environment. Focus is on developing the socio-technical systems analytic approach and understanding the advantages of this approach for designing and managing organizations.

Mr. McKevel

281B. People in Organizations. Prerequisite: graduate status. Introduces different philosophical perspectives for understanding human behavior. Theories important for understanding human behavior in organizations are presented as well as managerial implications of individual, group, and social behavior. Special attention given to knowledge about satisfaction motivation and productivity in organizations.

Mr. Cooper, Mr. Massarik

281C. Situational Factors in Management. Prerequisite: graduate status. Applies a situational, contingency, or "it all depends" perspective to important managerial issues such as personality, motivation, leadership, conflict management, and design of jobs and organizations. Develops a diagnostic way of thinking that is fundamental to managerial effectiveness in diverse organizational situations.

Mr. McKevel

282. Task Group Processes. Prerequisite: courses 281A, 281B, or consent of instructor. Focuses on the structures, processes, and interactions of work groups in socio-technical systems. Emphasizes an understanding of how group activities interrelate with the physical/technical environment. Imparts a practical knowledge of task group functioning through class exercises and field observations.

Mr. Culbert

282A. Environmental Settings of Social-Technical Systems. Prerequisite: course 281A or consent of instructor. Focuses on the complexity and uncertainty of organizational environments. Analyzes environments along socio-cultural, political, and economic dimensions, their interrelationships, and their relations to technology. Diagnoses organizational responses to various environments.

Mr. Davis, Ms. Huff

284A. Organization Design. Prerequisite: course 281A or consent of instructor. Survey of organizational design methods, including bureaucratic, participative, and cognitive models. Develops specific methods ranging from the micro-design of jobs to the macro-design of total organizational structures. Special emphasis on socio-technical and differentiation/integration models.

Mr. Davis

284B. Organization Development. Prerequisite: course 281B or consent of instructor. Analyzes effects of managerial practices on individual and group level. Focuses on programmatic effectiveness of various leadership styles, different motivation theories, and power tactics from a managerial point of view. Uses experience based learning methods to aid diagnosis and understanding of one's own influence situation.

Mr. Culbert, Mr. Massarik

285B. Managerial Interpersonal Communication. Prerequisite: course 281B or consent of instructor. Focuses on organizational, interpersonal, and personality factors affecting managerial communications. Analyzes styles and modes of communication in one-to-one, group, and indirect communication settings. Offers opportunities to deepen understanding of one's own communication styles and skills.

Ms. Lasko

287. Sensitivity Training Groups and Their Facilitation. Prerequisite: consent of instructor. Development of an interpersonal effectiveness training program that is concerned with the cognitive and experiential understanding of the dynamics of sensitivity training groups and their facilitation. Analyzes relevant theory, research findings, and case studies; integrates theoretical inputs into practice.

Ms. Lasko, Mr. Massarik

288A. Special Studies in Managing Organization Behavior. Prerequisite: open primarily to MBA students but also to others with consent of instructor. An examination, in depth, of problems or issues of concern in managing organizational behavior. Emphasis on recent theories, research findings, and professional applications of special interest to MBA students and the faculty. May be repeated for credit.

The Staff

288B. Selecting Topics in Behavioral Science. Prerequisite: enrollment in Ph.D. program or consent of instructor. Focuses on philosophies and theories of human behavior fundamental to the study of individual, group, organizational, and cultural behavior. Explores in depth selected theories, theoretical models, and their implications for the systems changes recommended in the socio-technical field study.

The Staff

288C. Current Issues in Socio-Technical Systems and Organization Design. Prerequisite: enrollment in Ph.D. program or consent of instructor. Covers current topics in the analysis and design of organizations as socio-technical systems engaged in various technologies and environments, emphasizing design approaches emanating primarily from Europe and the United States. Includes in depth comparisons of selected job and organizational design approaches. May be repeated for credit.

The Staff

288D. Current Issues in Human Systems Change and Development through Consulting. Prerequisite: enrollment in Ph.D. program or consent of instructor. Current topics in philosophy, art, and technology of improving organizations and increasing managerial effectiveness through consulting interventions. In-depth treatment of consultant entry and leaving, diagnostic, process consultation, consciousness raising, team building, values, attitudes and culture preferences. May be repeated for credit.

The Staff

288E. Selected Topics in Organization Theory. Prerequisite: enrollment in Ph.D. program or consent of instructor. In-depth treatment of organizations as units of analysis. Emphasizes recent theoretical and empirical development, methodological issues in organizational research, and concepts of organization structure, process, and effectiveness. May be repeated for credit.

The Staff

288F. Selected Topics in Organizational Behavior. Prerequisite: enrollment in Ph.D. program or consent of instructor. Explores psychological and social psychological aspects of human behavior and performance in organizations. Covers theoretical models, empirical research, such topics as attitudes and values, cognitive and perceptual processes, behavioral conflict, and individual change processes. May be repeated for credit.

The Staff

288G. Current Issues in Human Systems Studies. Prerequisite: enrollment in Ph.D. program or consent of instructor. In-depth study of theory and research pertaining to a particular subject matter or such topics as cross-cultural, organization change, role transition, and organizational phenomena. Open to graduate students and faculty interest. May be repeated for credit.

The Staff

289. Organization Theory. Prerequisite: course 423 or consent of instructor. Analysis of the theory and practice of the managerial function of organizing through study of the literature, case analyses, and seminar discussion. Individual projects and reports.

Mr. Koontz, Mr. McKevel, Mr. Sedgwick

291. Planning and Control. Prerequisite: course 423 or consent of instructor. Analysis of the theory and practice of the managerial function of planning and control. The implementation of objectives through policy formulation, decision making, and control. Individual projects and reports.

Mr. Carrabino, Mr. Steiner

292A. Research and Development Policy. Examination of research and development as a process and as an element of a goal oriented organization. Factors affecting invention and innovation; transfer of technology; organizational and behavioral considerations; coupling of science, technology and business; major policy goals; assessing of forecasting technological futures.

Mr. R.H. Mason and Mr. Schöllhammer

292B. Models of Organization Behavior. Prerequisite: consent of instructor. Theoretical frameworks for developing explanatory and predictive models of complex organizations. Exercises in constructing formal models, usually in mathematical or stochastic form and, where appropriate, using materials from field studies to develop empirical tests. Methods for discovering the implications for the systems changes recommended in the socio-technical field study.

292C. Comprehensive Planning in the Public Sector. Prerequisite: consent of instructor. Evolving models of planning under complexity with particular emphasis on the political dimensions of planning and policy formulation and implementation. Discussion of the implications for the systems changes recommended in the socio-technical field study.

292D. Management in the Not-for-Profit Sector. Prerequisite: graduate status. 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. Case

293. Business and Society. Prerequisite: consent of instructor. A study of the business enterprise as a social institution, with emphasis on the changing purposes of social action. Adjustments of the firm to changes in the social environment. Ethical problems. Management of social responsibility of the business manager.

Mr. Steiner

294A. Strategy Formulation and Implementation. Prerequisite: consent of instructor. Case course dealing with strategy decisions and their implementation, executive action, and administrative behavior involved in managing total enterprises. The student is confronted with complex company situations to develop ideas essential to overall managerial direction.

Ms. Huff, Mr. Steiner

294B. Environmental Impacts on Management. Prerequisite: consent of instructor. Examination of ways in which business, government, labor, and consumer organizations respond to external environmental problems. Methods are studied for developing and evaluating alternative managerial solutions which permit organizations to assist in improving current and future environments.

Mr. Case, Mr. Rumelt, Mr. Steiner

295A. Entrepreneurship and Venture Initiation. Prerequisite: consent of instructor. An exploration in entrepreneurship particularly concerned with the formation and operation of new business ventures. Significant emphasis is placed on exploring new business opportunities and starting a business.

Mr. Schöllhammer and the Staff

295B. Small Business Management. Prerequisite: consent of instructor. Exploration of crucial aspects in managing small business enterprises. Emphasis is placed on the identification and analysis of characteristic operating problems of small firms
and the application of appropriate methods or techniques for their solution.

Mr. Schöllhammer and the Staff

296A. International Business Management. Prerequisite: course 205A or consent of instructor. Identification, analysis, and resolution of managerial issues of policy and action within the context of an international business environment. Emphasis on problems of adaptation to different sociological, cultural, legal, political, and economic environmental characteristics.

Mr. R. H. Mason, Mr. Schöllhammer, Mr. Tsurumi

296B. International and Comparative Management Research. Prerequisite: enrollment in the Ph.D. program or consent of the 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. Goodman

297A. Comparative and International Management. Prerequisite: course 412 or consent of instructor. A comparative study of the practice of management in selected foreign countries, as affected by their social environments and the development of management theory.

Mr. Schöllhammer, Mr. Tsurumi

297B. International Business Policy. Prerequisite: course 205A and consent of instructor. Analysis of key managerial problems encountered in a multinational corporation, with emphasis acquired in other courses in International Business and Comparative Management will be applied to a series of complex cases and simulations of international business situations.

Mr. Schöllhammer and the Staff

297C. International Business Law. Prerequisite: 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; exportation of foreign investments; international business and government relations. 

The Staff

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, financing, production, foreign ownership/management control, terms, and conditions for technology transfer, investment incentives.

Mr. Schöllhammer and the Staff

298A. Special Topics in Management Theory. Prerequisite: open primarily to Ph.D. candidates or with consent of instructor. 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.

The Staff

298B. Special Topics in International and Comparative Management. Prerequisite: open primarily to Ph.D. candidates or with consent of the instructor. 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.

The Staff

299A. Special Topics in Socio-Technical Systems. Prerequisite: open primarily to Ph.D. candidates or with consent of instructor. An examination in depth of problems or issues of current concern in socio-technical 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.

The Staff

299D. Special Topics in Management. Prerequisite: open primarily to Ph.D. candidates or with 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.

The Staff

299R. Research Methods in Management. Prerequisite: Ph.D. candidate. Provides feedback and upgrading of students for the research phase of the Ph.D. requirement. Quarterly meetings will be held to discuss expectations of the research committee and the Doctoral Office. Students must enroll the quarter in which they are submitting their research paper. May be repeated for credit.

The Staff

PROFESSIONAL COURSES (numbered 400-499)

The following courses in the professional series are acceptable toward the MBA, MS, 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 status. Fundamental mathematics for business, including topics from matrix algebra, probability, and calculus, with applications to model building and decision making in business terms. S/U only.

The Staff

401. Managerial Economics. Prerequisite: graduate status. Introduction to the measurement and determination of economic activity in the aggregate and to the role of prices in the decision-making activity of the organization. National Income Accounting, Basic Economic Policy, Markets and Prices, Competition and Monopoly, Applications.

The Staff

402. Data Analysis, Statistics, and Decision Making. Prerequisite: graduate status. An introduction to statistical techniques for graduate students who have had no previous course in which emphasis is upon application to business problems.

The Staff

403. Managerial Accounting. Prerequisite: graduate status. An introduction to fundamental systems and procedures in financial and managerial accounting, with an emphasis on income measurement, marginal analysis, standard and direct costing.

The Staff

404. Managerial Computing. Prerequisite: graduate status. An introduction to the use of computers for business applications. Computer hardware, software, and programming concepts are discussed. Programming problems are assigned, using both batch-type (PL/C/ and interactive (ALP) languages.

The Staff

405. Managerial Economics: The Organization. Analysis of decision making in the firm, competitive policies and market structure, revenue and cost behavior.

The Staff

406. Managerial Economics: Forecasting. Prerequisite: graduate status. Sales, costs, and profit forecasting. General business forecasting and cyclical mechanisms.

The Staff

407. Managerial Model Building. Prerequisite: courses 400, 402, or equivalent. A survey of the uses of formal modeling approaches in managerial decision making. Emphasis is on model types and formalization, and use of solutions obtained from computer routines. Application areas examined include finance, marketing, production, and public systems.

The Staff

408. Managerial Finance. Prerequisite: course 403. Prerequisite: graduate status. Emphasis on managerial financial management. Aimed at principles generally applicable to all types of organizations. Emphasis on financial planning and control, sources of funds, developing objectives and standards, which lead to effective allocation and use of the organization's resources.

The Staff


The Staff

410. Operations Management. Prerequisite: course 111 or 407 or equivalent. Principles and decision analysis related to the effective utilization of the factors of production in manufacturing and non-manufacturing activities including both discrete and continuous systems. The study of production organizations, analytical models and methods, facilities design, and the design of control systems for production operations.

The Staff

411. Elements of Marketing. A study of industries and policies related 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.

The Staff

412. Management of Organizations. Prerequisite: completion of two quarters of work towards the MBA degree. Integrative approach to theory and practice of management in complex organizations, emphasizing managerial roles in designing organizational structures, creating/maintaining planning, control, information, incentive systems, different patterns of human interaction such structures and processes tend to produce.

The Staff

420. Management Policy. Prerequisite: course 412. Evaluation and formulation of organization's overall policies and strategies. Economic, heuristic, and social process approaches to policy formulation, environmental analysis, and organizational approaches to senior management's role in shaping the policy process.

The Staff

423. Advanced Management Theory. Advanced study of management theory in formally organized enterprise through significant readings; discussing advanced approaches and techniques developed from applying theory; using theory to integrate methods and findings of quantitative and behavioral sciences; lectures on sophisticated application of management theory in practice.

Mr. McKelvey, Mr. Raia


The Staff

431A. Introduction to Model Building. (4 course) Prerequisite: graduate status. An introduction to formal model building. Use of models and simulation models as system describers. Characteristics of the major "classes" of models. Formulation of problems in terms of mathematical models. Interpretation of solutions. Solved by the computer.

The Staff

433. Computing Laboratory. (4 course) Prerequisite: graduate status. Use of the computer as an aid in solving management-related problems; interactive, time-shared processing utilizing remote terminals; and the APL computer language.

The Staff

434. Managerial Accounting and Finance. Prerequisite: graduate status. An introduction to the fundamentals of accounting and finance with emphasis on the preparation of basic financial statements and the techniques of financial analysis.

The Staff


The Staff

436. Policy and Organizational Environment. Prerequisite: course 441. Environmental settings of management. Policies and procedures related to the formulation of objectives and strategies; the role of participation in decision making; the roles of different levels and functions in the implementation of policies and programs; the role of efficiency and effectiveness in the management of organizations.

The Staff

NOTE: For key to symbols, see page 74
of various sectors of society with special emphasis on business; issues facing managers and management-related specialists; and formulation of organizational strategies and policies. The Staff

440. Managerial Problem Solving: Individual. Prerequisite: grade status. Study and practice of individual roles and complex problems, including the impacts of personality, motivation, interpersonal communication, and various decision-making techniques. The relationships among the individual, managerial roles, and complex organizational processes are studied.

441. Managerial Problem Solving: Complex Systems. Prerequisite: course 440. Study of organizational and interorganizational problem solving including program formulation, decision-making, forecasting, assumption testing, solution methods, implementation, evaluation, control, and dealing with conflict and ambiguity. Organization of projects in which problem-solving is experienced at various levels of complexity.

444A-444B. Management Field Study. Must be taken in two consecutive quarters in second year. Supervised study of an organization including establishment of client organization/student consultant relationship, identification of problems, design of study, collection and analysis of data, development and reporting of implementable recommendations. This course is offered on an in-progress basis, with one or two students completing the full two-quarter sequence, at the end of which time a grade is given for both quarters of work.

The Staff

505. Field Work in Behavioral Science Management Development. (1 or 2 courses) Prerequisite: course 287 and consent of instructor. Supervised practical work in all phases of laboratory education for management development, such as sensitivity training laboratories, creativity and personal growth laboratories, simulated managerial behavior laboratories, etc.

Mr. Culbert, Ms. Lasko, Mr. Massarik

511. Field Work in Organizational Development. (To 3 courses) Prerequisite: courses 282B, 283 and/or consent of instructor. Supervised practical field work in organizational development consultation in interpersonal, group, intergroup, total organization, and interorganizational settings.

The Staff

520. Field Work in Technical Assistance for Minority Business Enterprise. (1 to 2 courses) Prerequisite: completion of first year of master's program or consent of instructor. Supervised field experience in business consulting and other forms of technical assistance for business firms and management training in ethnic communities; seminars and other shared learning experiences in transmitting business administration technique to the urban ghetto.

The Staff

525. Field Work in Arts Management. (1 to 3 courses) Prerequisite: consent of instructor. Supervised field experience and practical work in all phases of an arts organization (pictorial, performing, or community), concentrating on its managerial problems and its relationship to the community and society in general.

The Staff

**INDIVIDUAL STUDY AND RESEARCH COURSES (numbered 500-599)**

Individual study or research courses may be used, within limitations and conditions prescribed by the School, to satisfy minimum higher degree requirements.

501. Cooperative Program. (1 to 2 courses) Prerequisite: approval of UCLA School of Management Graduate Adviser and Assistant Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

596A-596N. Research in Management. (1 to 2 courses) Prerequisite: consent of Director of Master's Program or Director of Doctoral Program by special petition. Directed individual study or research.

The Staff

597. Preparation for Qualifying Examinations. (1 or 2 courses) Prerequisite: consent of Director of Master's Program or Director of Doctoral Program by special petition. Preparation for comprehensive examination for the master's degree or the qualifying examination for the Ph.D. degree.

The Staff

598. Thesis Research in Management. (1 or 2 courses) Prerequisite: consent of Director of Master's Program by special petition. Research for and preparation of master's thesis.

The Staff

599. Dissertation Research in Management. (1 or 2 courses) Prerequisite: consent of Director of Doctoral Program by special petition. Research for and preparation of doctoral dissertation.

The Staff

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**MATHEMATICS**

(Department Office, 6364 Mathematical Sciences Building)

Richard F. Arens, Ph.D., Professor of Mathematics.
Donald G. Babbitt, Ph.D., Professor of Mathematics.
Kirby A. Baker, Ph.D., Professor of Mathematics (Vice Chairman, Undergraduate Program).
A.V. Balakrishnan, Ph.D., Professor of Mathematics and Engineering and Applied Science.
Robert J. Blattner, Ph.D., Professor of Mathematics.
Robert F. Brown, Ph.D., Professor of Mathematics.
David G. Cantor, Ph.D., Professor of Mathematics and Engineering and Applied Science.
C.C. Chang, Ph.D., Professor of Mathematics.
Alonzo Church, Ph.D., Professor of Mathematics and Philosophy in Residence.
Earl A. Congdon, Ph.D., Professor of Mathematics.
Julian D. Cole, Ph.D., Professor of Mathematics and Engineering and Applied Sciences.
Philip C. Curtis, Jr., Ph.D., Professor of Mathematics.
Henry A. Dye, Ph.D., Professor of Mathematics.
Robert Edwards, Ph.D., Professor of Mathematics.
Hector Fattorini, Ph.D., Professor of Mathematics and Engineering and Applied Science.
Thomas S. Ferguson, Ph.D., Professor of Mathematics.
Theodore Ganelin, Ph.D., Professor of Mathematics (Chairman of the Department).
John Garrett, Ph.D., Professor of Mathematics.
David Gereke, Ph.D., Professor of Mathematics.
Basil Gordon, Ph.D., Professor of Mathematics.
John W. Green, Ph.D., Professor of Mathematics.
Robert E. Greene, Ph.D., Professor of Mathematics.
Nathanial Grumman, Ph.D., Professor of Mathematics.
Allred Hales, Ph.D., Professor of Mathematics.
Allred Hott, Ph.D., Professor of Mathematics.
S.T. Hu, Ph.D., D.Sc., Professor of Mathematics.
Robert I. Jennrich, Ph.D., Professor of Mathematics and Biomathematics.
Paul B. Johnson, Ph.D., Professor of Mathematics.
Paul J. Koosis, Ph.D., Professor of Mathematics.
Thomas M. Liggett, Ph.D., Professor of Mathematics (Vice Chairman, Administrative).
Ronald Marz, Ph.D., Professor of Mathematics.
Viannis N. Moschovakis, Ph.D., Professor of Mathematics (Vice Chairman, Graduate Student).
Barren O’Neil, Ph.D., Professor of Mathematics.
Stanley J. Osher, Ph.D., Professor of Mathematics.
Lowell J. Paige, Ph.D., Professor of Mathematics.
Bernard Port, Ph.D., Professor of Mathematics.
James V. Rafton, Jr., Ph.D., Professor of Mathematics.
Raymond M. Redheffer, Ph.D., Professor of Mathematics.
Bruce L. Rothschild, Ph.D., Professor of Mathematics.
Herbert Enderton, Ph.D., Emeritus Professor of Mathematics.
Herbert Enderton, Ph.D., Professor of Mathematics.
Murray Schacher, Ph.D., Professor of Mathematics.
Robert Steinberg, Ph.D., Professor of Mathematics.
Sidney Port, Ph.D., Professor of Mathematics.
Paul B. Johnson, Ph.D., Professor of Mathematics.
Pamela Cook, Ph.D., Professor of Mathematics.

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Rodolfo De Sapio, Ph.D., Associate Professor of Mathematics.
Richard S. Elman, Ph.D., Associate Professor of Mathematics.
David Gillman, Ph.D., Associate Professor of Mathematics.
E. Brian Evens, Ph.D., Professor of Mathematics.
Allan E. Hatcher, Ph.D., Associate Professor of Mathematics.
Charles G. Lange, Ph.D., Associate Professor of Mathematics.
James White, Ph.D., Associate Professor of Mathematics.
Pamela Cook-Ioannidis, Ph.D., Assistant Professor of Mathematics.
Richard T. Durret, Ph.D., Assistant Professor of Mathematics.
Bijan Engquist, Ph.D., Assistant Professor of Mathematics.
Steven Krantz, Ph.D., Assistant Professor of Mathematics.
John R. Steel, Ph.D., Assistant Professor of Mathematics.

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David Cohen, M.A., Lecturer in Mathematics.
Robert Esterline, Ph.D., Professor of Mathematics.
John McGhee, M.A., Lecturer in Mathematics.

**Undergraduate Programs**

Students who wish advice or current information on any of the undergraduate mathematics programs should inquire at the Undergraduate Mathematics Office, MS 6356.

Courses taken to fulfill any of the requirements for any of the undergraduate mathematics courses must be taken for a letter grade and not on a Pass/Not Pass basis.

**Preparation for the Major**

Courses 31A-31B-31C, 32A-32B-32C or the corresponding courses in the honors sequence. These courses must be completed with an average grade of C or better, and satisfactory performance on the preliminary examination (below) are strongly urged to take the honors sequence Mathematics 31AH-31BH-31CH, 32AH-32BH-32CH. Engineering 10C (Engineering 10F may be substituted for Engineering 10D) and any 10C course in physical sciences chosen from Chemistry 11 or 11H sequences (formerly Chemistry 1 or 3), Physics 6, 8 or 8H sequences. Astronomy 101, Atmospheric Sciences 10, 40A, 40B, or approved upper division courses in Chemistry, Atmospheric Sciences, Geophysics and Space Sciences, and Physics.

**Transfer Students**

Transfer students, and UCLA students wishing to change their major to mathematics, with 60 or more quarter units of credit must have completed one year of calculus and have a C average or better in all college level mathematics courses completed. Transfer students should consult with a departmental adviser at their earliest opportunity. Particular areas where evaluation and direction may be necessary are linear algebra and differential equations.

**The Major**

Courses 110A, 115, 120A, 131A, 131B, and at least five additional courses numbered between 105 and 199. Highly recommended for students who may wish to obtain a graduate degree: courses 110B-110C. A reading knowledge of French, Russian or German is strongly recommended for students intending to pursue graduate work.

**Honors Calculus Sequence**

The first and second year honors sequence, Mathematics 31AH-31BH-31CH-32AH-32BH-32CH, is intended for students (not necessarily mathematics majors) who have done unusually well in the standard sequence and desire a broader and more comprehensive and demanding introduction to university-level topics. On occasion, the courses may range beyond the stated topics of calculus, linear algebra, and differential equations. Admission to the sequence by permission of the instructor, and satisfactory performance on the preliminary examination in mathematics 31AH is required. Students who have done unusually well in the standard sequence are welcome to apply for transfer to the honors sequence. (The honors sequence is not connected with the Undergraduate Honors Program described below.)

**Undergraduate Honors Program**

A student majoring in mathematics and wishing to graduate with Honors in Mathematics should apply for admission to the Honors Program. This may be done any time after the fourth undergraduate
quarter. Minimum entrance requirements for fifth quarter students are the completion of courses 31A-31B-31C and 32A with three A's and one B. Applications from students past the fifth quarter and from transfer students will be judged on prospects for successful completion of the program. Honors in Mathematics: (a) earn a grade-point average of at least 3.6 in approved upper division and graduate mathematics courses. Students who demonstrate exceptional achievement will be awarded Highest Honors.

Departmental Scholar Program in Mathematics

This program allows exceptionally promising undergraduates to enroll in graduate courses and begin work towards the Master's degree in mathematics. See Departmental Scholar Program.

The Major in the Teaching of Mathematics

Courses 101A-101B-101C, 102A-102B, 152A, 370 and at least three other courses in the 100 series beyond the major are recommended are courses 106, 111A-111B-111C, 115, 120A-120B, 131A-131B, 132, 140A, 142, 147, 152B. A knowledge of Spanish is recommended for students who intend to teach in the Southwest.

Teaching Credentials

Students interested in teaching mathematics in the schools should consult the department at the Undergraduate Mathematics Office, MS 6356, about teaching credentials. The Major in Mathematics-Computer Science

An interdisciplinary program in applied mathematics is offered leading to the M.A. and Ph.D. degrees in mathematics. The candidate for the M.A. degree must pass a set of written qualifying examinations, one in basic analysis and one in additional areas drawn from applied mathematics, numerical analysis, or probability and statistics. Four qualifying examinations are required a senior year and passing the Ph.D. algebra qualifying examinations and one of the other Ph.D. qualifying examinations.

Requirements for the Doctor's Degree

The requirements are in general, in accordance with those listed under general requirements for the doctor's degree. At present, the qualifying examinations which must be taken within the Department before the student is advanced to candidacy consist of an examination in algebra, an examination in complex analysis, an examination in probability and statistics, and an additional examination in any other field. The parts consist of (1) algebra, (2) real analysis, (3) complex analysis, and (4) mathematical electives. These written examinations are given twice each year; the student normally should take them during his/her second year of graduate study. There are two additional requirements for the Ph.D. Students must pass satisfactorily the Theses Examination at the end of the major mathematics courses numbered 205 through 285 but excluding 210A-210B, 245A-245B, 246A-246B; and furthermore, students are required to participate actively in at least two seminars during their graduate study. Exception to these requirements may be made in special cases.

A student pursuing the Ph.D. degree can obtain a Master's degree by fulfilling the eleven course requirement, and by passing the Ph.D. algebra qualifying examination and one of the other Ph.D. qualifying examinations.

Applied Mathematics

An interdisciplinary program in applied mathematics is offered leading to the M.A. and Ph.D. degrees in mathematics. The candidate for the M.A. degree must pass a set of written qualifying examinations, one in basic analysis and one in additional areas drawn from applied mathematics, numerical analysis, or probability and statistics. Four qualifying examinations are required before a Ph.D. student is advanced to candidacy. The student must pass one written examination in applied real and complex analysis, and two chosen from applied differential equations, numerical analysis, and mathematical statistics. A fourth written or oral examination tests the student's competence in a research level in a specialized "outside" field. Examples of these "outside" fields may be found in "Information for Students in Applied Mathematics" available in the Graduate Mathematics Office. In addition to the qualifying examinations, students must pass satisfactorily at least eighteen approved graduate courses, including at least twelve mathematics courses numbered from 205 to 285.

Lower Division Courses

1A. Intermediate Algebra. (¼ course) Prerequisites: Mathematics 1A and 1AN are the same course. Both displace 4 units on the student's study

NOTE: For key to symbols, see page 74
list but Mathematics 1A yields 2 units credit towards the degree while 1AN yields no credit. Enrollment in Mathematics 1A is limited to students with not more than two and one-half years of high school mathematics. Restrictions: Mathematics 1A may not be used to satisfy College breadth requirements. Not open for credit to students with three years or more of high level mathematics (students with three years of high school mathematics may enter Mathematics 1B). Not open for credit to students who have credit for other mathematics courses. Arithmetical operations on the real numbers, algebraic notation, polynomials, rational exponents, linear and quadratic equations and inequalities, coordinate geometry. Intended for students requiring a review of elementary and intermediate algebra.

1AN. Intermediate Algebra. (No credit) Prerequisites: Mathematics 1A and 1AN are the same course. Both displace 4 units on the student's unit list, but Mathematics 1A yields 2 units credit towards the degree while 1AN yields no credit. Enrollment in Mathematics 1A is limited to students with not more than two and one-half years of high school level mathematics. Restrictions: Mathematics 1AN is only offered on a P/NP basis and may not be used to satisfy College breadth requirements. Not open for credit to students who have credit for other mathematics courses. Arithmetical operations on the real numbers, algebraic notation, polynomials, rational exponents, linear and quadratic equations and inequalities, coordinate geometry. Intended for students requiring a review of elementary and intermediate algebra but who have taken three or more years of high school mathematics.

1B. Precalculus. Prerequisite: course 1A or two and one half years of high school mathematics or satisfactory performance on a placement examination given the first class meeting. Not open for credit to students who have credit for other mathematics courses except 3A-3B and 100. The function concept is used, logarithms, exponential and logarithmic functions and their graphs, zeroes of polynomials, inverse, exponential and logarithmic functions. Trigonometric functions.

2 Finite Mathematics for Social Science Students. (Formerly Mathematics 2B-2C) Prerequisite: three years of high school mathematics or satisfactory performance on a placement examination given the first class meeting. Not open for credit to students who have credit in another calculus sequence. 3A: techniques and applications of the differential calculus. 3B: techniques and applications of the integral calculus. 3C: may be taken after course 4B. Functions of several variables, vectors, partial differentiation, and multiple integration.

3A-3B-3C. Calculus for Life Science Students. Prerequisite: three years of high school mathematics (including trigonometry) or course 1B. Finite mathematics consisting of elementary logic, sets, combinatorics, probability, vectors and matrices.

3A-3B-3C. Calculus for Life Science Students. Lectures three hours, discussion, two hours. Prerequisite: a section of Mathematics 3A designed for Economics majors is only offered on a P/NP basis and may not be used to satisfy College breadth requirements. Not open for credit to students who have credit for other mathematics courses. Arithmetical operations on the real numbers, algebraic notation, polynomials, rational exponents, linear quadratic equations and inequalities, coordinate geometry. Intended for students requiring a review of elementary and intermediate algebra but who have taken three or more years of high school mathematics.

101A-101B-101C. Topics in Algebra. Prerequisite: course 31C or consent of the instructor. 101A is not open for credit to students with credit for course 101A. A sequel to intermediate algebra, written primarily for prospective secondary school 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. This course sequence may not be offered every year.

102A-102B. Topics in Geometry. Prerequisite: course 31C or consent of the instructor. A sequel to intermediate algebra, written primarily for prospective secondary school 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. This course sequence may not be offered every year.

104. History of Mathematics. Prerequisite: course 31C or consent of the instructor. A sequel to intermediate algebra, written primarily for prospective secondary school 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. This course sequence may not be offered every year.

106. History of Mathematics. Prerequisite: course 31C or consent of the instructor. A sequel to intermediate algebra, written primarily for prospective secondary school 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. This course sequence may not be offered every year.

111B-111C. Theory of Numbers. Prerequisite: course 115 or consent of the instructor. Divisibility, congruences, Diophantine analysis, selected topics in the theory of primes, algebraic number theory, Diophantine equations, solvability.

112B-112C. Set Theory and Logic. Prerequisite: courses 32A-32B or 32C or consent of the instructor. Course 112A deals with informal axiomatic set theory presented as a foundation for modern mathematics. Course 112B covers predicate logic, formalized theories. Gödel's completeness and incompleteness theorems.

113. Combinatorics. Prerequisite: course 32A or consent of the instructor. Not open for credit to students who have completed Mathematics 118. Permutations and combinations, counting principles, recurrence relations and generating functions, combinatorial designs, graphs and trees, with applications including games of complete information, combinational existence theorems, Ramsey's theorem.

115. Linear Algebra. Prerequisite: course 31C or consent of the instructor. Abstract vector spaces; linear transformations and matrices; determinants; similarity; eigenvalues and eigenvectors; Jordan form; inner product spaces; quadratic forms.

118. Combinatorial Algorithms. Prerequisites: Mathematics 32A and 32B, Computer Science 141 (formerly Engineering 141B). Open for credit to students who have completed Mathematics 113. Applied aspects of combinatorial mathematics including counting and enumeration; searching and sorting techniques; recurrence relations; graph algorithms; computational complexity.

GEOMETRY AND TOPOLOGY

121. Introduction to Topology. Prerequisite: course 131A. 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 in homogeneous coordinates; the principles of duality; projectivities, the fundamental theorem, and the theorems of Desargues, Pappus, Steiner and Pascal.

ANALYSIS
131A-131B. Analysis. Prerequisite: 131A: course 32B or consent of the instructor. 131B: courses 131A and 115 or consent of the instructor. 131A: real numbers, point set topology in IR^n and in metric spaces, limits, continuity, derivatives, infinite sequences and series, uniform convergence and approximation of functions by polynomials: Cauchy sequences, Riemann-Stieltjes integral, sequences and series of functions, multivariable differential calculus, implicit and inverse function theorems, extremum problems, multiple integrals.

132. Introduction to Complex Analysis. Prerequisite: course 32B or consent of the instructor. Complex numbers, functions, differentiability, series, extensions of elementary functions, integrals, calculus of residues, conformal maps and mappings with applications.

133. Integration on Manifolds. Prerequisite: course 131B. Integration theory for functions of several variables, multilinear algebra, differential forms. Stokes' Theorem on manifolds.

134. Measure and Integration. Prerequisite: course 131B or consent of the instructor. An introduction to Lesbesgue measure and integration.

135A-135B-135C. Differential Equations. Prerequisite: 135A: 32C for the discontinued 13A or 130A. Course 135A is not open for credit to students having the former 130B. Prerequisite to 135B: 135A (previously called 130B). Course 135B is not open for credit to students having the former 130C. Prerequisite to 135C: 135B (previously called 130C).

Systems of differential equations, linear systems, existence and uniqueness theorems, linear systems, Lyapunov's Second Method, Sturm-Liouville problems, applications, linear partial differential equations, the wave equation, the heat equation and Laplace's equation.

APPLIED MATHEMATICS
140A-140B-140C. Numerical Analysis. Prerequisite: courses 32A, 32B-32C, 115A and Engineering 10C or 10F, or consent of the instructor. 140A: Computational methods for linear algebra; solving systems of linear equations; computing eigenvalues and eigenvectors; nonlinear equations; interpolation and approximation; numerical differentiation and integration; Richardson extrapolation. 140C: Elements of numerical solutions for scalar ordinary differential equations; initial value problems.

142. Introduction to Applied Mathematics. Prerequisite: courses 32A-32B-32C or consent of the instructor. An introduction to the fundamental principles and the spirit of applied mathematics. Emphasis is placed on the manner in which mathematical models are constructed for physical problems. Illustrations are drawn from many fields of endeavor (e.g., physical science, biology, economics, traffic analysis) and from applied mathematics.

143. Analytic Mechanics. Prerequisite: courses 32A-32B-32C or consent of the instructor. Foundations of Newtonian mechanics, kinematics and dynamics of a rigid body, variational principles and Lagrange's equations; calculus of variations, variable mass; role of Lagrange's equations in applied mathematics.

144. Theory of Games and Linear Programming. Prerequisite: course 115 or consent of the instructor. The basic theorems of the two-person zero-sum matrix games including the minimax theorem; applications to games of chance and strategy; principles of linear programming, the duality theorem, and simplex methods; applications to industrial and business problems.

145A-145B. Methods of Applied Mathematics. Prerequisites: courses 32A-32B-32C or consent of the instructor. Calculus of variations, linear integral equations (Volterra and Fredholm) and applications to differential equations, Fourier series and integrals, elements of tensor calculus, special topics as time permits.

PROBABILITY AND STATISTICS
150A-150B-150C. Probability and Statistics. Prerequisite: course 32B or consent of the instructor. 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. These courses emphasize both theory and applications.

M151. Stochastic Processes. (Same as Engineering M120C.) Prerequisite: Engineering 120A or courses 150A-150B, or 152A and consent of the instructor. An introduction to the theory and applications of stochastic processes, emphasizing Markov chains and pure jump processes; illustrations from queuing systems, point processes, birth and death processes, renewal theory; Poisson processes, Brownian motion, diffusion processes.

152A-152B. Applied Mathematical Statistics. Prerequisite: course 32B or consent of the instructor. A broad introductory course in the theory and application of statistical methods. This course condenses 152A-150B-150C into a single quarter mainly by devoting less time to the underlying theory.

M153. Introduction to Computational Statistics. (Same as Biomathematics M153.) Prerequisite: Mathematics 150C or Mathematics 152B or the 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 methods, and analysis of real data.

190. Honors Mathematics Seminar. Prerequisite: admission to Mathematics honors program and consent of the instructor. A participating seminar on advanced topics in mathematics.

191. Upper Division Seminars. (% to 1 course) Prerequisite: courses 32A-32B-32C or consent of the instructor. A discussion seminar in which the department will offer a limited number of seminars in various branches of mathematics. The method of teaching will involve substantial student participation and enrollment of each seminar will be limited to 15 students. Course may be repeated for credit.

199. Special Studies in Mathematics. (% to 1 course) Prerequisite: approval of the chairman and consent of the instructor. At the discretion of the chairman and subject to the availability of staff, credit will be granted to students enrolled in undergraduate course credit but not specifically offered as separate courses. Course may be repeated for credit, but no more than one 199 course may be counted towards the ten upper division courses required for the major.

Graduate Courses

TEACHER PREPARATION

201A-201B-201C. Topics in Algebra and Analysis. Prerequisite: B.A. degree with mathematics major or equivalent. A course for students in the mathematics-education program. Students may not receive credit toward the M.A. degree in Mathematics for this course. Important ideas of algebra and analysis, and calculus leading from elementary to modern mathematics. Approaches to the number system, point-set geometric interpretations of algebra and analysis, integration, differentiation, series and analytic functions.

202A-202B. Mathematical Models and Applications. Prerequisite: B.A. degree with mathematics major or equivalent. A course designed for students in the mathematics-education program. Students may not receive credit toward the M.A. degree in Mathematics for this course. Development of mathematical theories describing various empirical situations. Basic characterizing postulates are discussed and a logical structure of theories developed. Modern topics such as operations research, linear programming, game theory, learning models, models in social and life sciences.

NUMBER THEORY

205A-205B-205C. Number Theory. Prerequisite: courses 246A and 210A or consent of the instructor. Topics from analytic algebraic and geometric number theory, including distribution of primes and factorization in algebraic number fields. Also selected topics from additive number theory, Diophantine approximation, partitions, class-field theory, lattice point problems, valuation theory, etc.


ALGEBRA

210A-210B-210C. Algebra. Prerequisite: courses 110A-110B-110C or consent of the instructor. Students may not receive credit toward the Master's degree for both 210B and 110B and/or 210C and 110C. Group theory including the theorems of Sylow and Jordan-Flasch. Structure of groups, solvable and nilpotent groups, classical Abelian groups, representation theory, factorization theory in integral domains, modules over principle ideal rings, Galois theory of fields, multilinear algebra, structure of algebras.

211. Structure of Rings. Prerequisite: course 210A or consent of the instructor. The radical, irreducible modules and primitive rings, rings and algebras with minimum condition.

212. Homological Algebra. Prerequisite: course 210A or consent of the instructor. Modules over a ring, homomorphisms and tensor products of modules, projective and injective modules, derived functors, homological dimension of rings and modules.

213A-213B. Theory of Groups. Prerequisite: course 210A or consent of the instructor. Modules over a ring, homomorphisms and tensor products of modules, projective and injective modules, derived functors, homological dimension of rings and modules.

214A-214B. Algebraic Geometry. Prerequisite: course 210A or consent of the instructor. Topics from representation theory, transfer theory, finite Abelian groups, free products and presentations of groups, solvable and nilpotent groups, classical groups, algebraic groups.

215A-215B. Commutative Algebra. Prerequisite: course 210A or consent of the instructor. Topics from commutative ring theory, including techniques of localization, prime ideal structure in commutative Noetherian rings, the principal ideal

NOTE: For key to symbols, see page 74
Theorem. Dedekind rings, modules, projective mod-
ules, 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;
Löwenheim-Skolem theorems; definability;
ultraproducts; preservation theorems; interpreta-
tion theorems; induction and recursion theorems;
Church's theorem; recursively enumerable sets;
hierarchies; degrees. Formal proofs: completeness
and incompleteness theorems; decidable and
undecidable theorems; quantifier elimination. Set
theory: Zermelo-Fraenkel and von Neumann-
Gödel axioms; cardinal and ordinal numbers;
continuum hypothesis; constructible sets; indepen-
dence results and forcing.

222A. Lattice Theory. Prerequisites: course
210A and some knowledge of topology, or consent
of instructor. Partially ordered sets; lattices;
distributivity, modularity, completeness; ideal theory,
representation theory. Interaction with algebra,
combinatorics, topology, and logic.

223A. Model Theory. Prerequisites: courses
220A-220B-220C. Topics will be chosen from
ultraproducts, preservation theorems, interpreta-
tion 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 will be chosen from con-
structibility theory, Cohen extensions, large cardinals,
and combinatorial set theory.

223C. Recursion Theory. Prerequisites: courses
220A-220B-220C. Topics will be chosen from
degrees of unsolvability, recursively enumerable sets,
undecidable theorems, inductive definitions,
admisible sets and ordinals, and recursion in higher
levels of the set theory.

223D. Descriptive Set Theory. Prerequisites:
courses 220A-220B-220C. Classical descriptive set
theory: Borel and projective sets. Effective descrip-
tive set theory. Consequences of strong set-theoretic
hypotheses.

GEOMETRY

226A-226B-226C. Differential Geometry. Prere-
quisites: course 231A or consent of the instructor.
Manifold theory; connections, curvature, torsion,
and parallelism. Riemannian manifolds; complete-
ess, sub-manifolds, constant curvature. Geodesics;
connections, and parallel transport. Geometric mea-
sure theory, nonpositive curvature. Further topics
such as: pinched manifolds, integral geometry,
Kahler manifolds, symmetric spaces.

228. Convex Sets. (Formerly numbered 228A-
228B.) Prerequisite: course 212 or 245A or consent
of instructor. Convexity concepts for convex sets in
topological linear spaces; separation theorems and
support functions; local convexity; convex func-
tions; Helly type theorems; duality.

229B-229B-229C. Lie Groups and Lie Algebras.
Prerequisites: Knowledge of basic theory of
topological groups and knowledge of differentiable
manifolds. Lie groups, Lie algebras, subgroups,
superalgebras. Exponential map. Universal envelop-
ing algebra. Campbell-Hausdorff formula. Nilpo-
tent and solvable Lie algebras. Cohomology of Lie
algebras. Theorems of Weyl, Levi-Mal'cev. Semi-
simple Lie algebras. Classification of simple Lie
algebras. Representations. Compact groups. Weyl's
classification theorem.

TOPOLOGY

230. General Topology. Prerequisites: courses 131A-
131B or consent of the instructor. Students may not
receive credit toward the Master's degree for both
230 and 121. Topological spaces and maps, prod-
ucts, quotient spaces, connectedness and compact-
tness, separation properties, local properties, com-
pleteness, homotopy and the fundamental group.

231A. Manifold Theory. Prerequisites: courses
131A-131B and 121 or consent of the 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. Prere-
quisite: course 231A, or consent of the instructor.
Elements of homology theory, singular chains and
the boundary operator, definition of homology,
Mayer-Vietoris sequence, calculation of homology
of standard spaces.

231C. Further Topics in Geometry and Algebraic
Topoogy. Prerequisites: courses 231A-231B, or
consent of the instructor. Topology may include:
cohomology and duality theorems, de Rham's
topology, cup products, and transversality intersect-
tion theory of submanifolds. Additional topics as
time permits.

232A-232B-232C. Algebraic Topology. Prere-
quisites: course 121 or 230 or consent of instructor.
Fundamental group; homology theory. singular
topology, cellular topology, computation of homology
groups; cohomology theory, cup and cap products,
duality; homotopy theory, fiberspaces, Hurewicz
theory, obstruction theory.

236. Advanced Topics in Geometric Topology.
Prerequisite: courses 231A, 231B or consent of the
instructor. Handlebody theory, transversality; PL
topology; surgery; topics vary from year to year.

237. Advanced Topics in Algebraic Topology.
Prerequisite: consent of instructor. K-theory; fixed
point theory; extraordinary cohomology theories; topic
varies from year to year.

ANALYSIS AND DIFFERENTIAL EQUATIONS

240. Methods of Set Theory. Prerequisites: course
131A-131B, or consent of the instructor. Algebra. Zermelo 121 or its
equivalent.) Naive, axiomatic set theory, the axiom
of choice and its equivalents, wellorderings,
transfinite induction, ordinal and cardinal
arithmetics. Applications to algebra; Hamel bases,
the Stone representation theorem. Applications to
analysis and topology; the Cantor-Bendixson
decomposition, counterexamples in measure theory,
Borel and analytic sets, Choquet's theorem.

245A-245B-245C. Real Analysis. Prerequisites:
courses 132A-132B-132C or consent of the
instructor. Handlebody theory, transversality; PL
topology; surgery; topics vary from year to year.

246A-246B-246C. Functional Analysis. Prere-
quisites: courses 245A-245B-245C and
246A-246B-246C. Potential theory, subharmonic functions, harmonic
functions; Hardy spaces; entire functions; univalent
functions; Riemann surfaces; extremal length,
variational methods, quasiconformal mappings; topics
vary from year to year.

250A-251B. Topological Groups. Prerequisite:
courses 245A-245B-245C or consent of instructor.
Introduction to analytic functions of several variables;
the problem, Cousin problems, domains of holomorphic, complex
manifolds.

250A-250B. Trigonometrical Series. Prerequisite:
course 245A or its consent of instructor. Examples of
Fourier series, power series, orthogonal polynomials, almost periodic functions, and
complexity of sets of functions.

FUNCTIONAL ANALYSIS

255A. Functional Analysis. Prerequisites: courses
246A, 245A-245B; or 246A, 265A-265B; or consent
of the instructor. Banach spaces, basic principles.
Weak topologies. Compact operators. Fredholm op-
erators. Special spaces including Hilbert spaces and
(Sc). 255A.

255A. Topics in Functional Analysis. Prere-
quisites: course 255A. Topics chosen from Banach
algebras, operators on Banach spaces and Hilbert
space, semigroups of operators, linear topological
vector spaces, and other related areas.

256A-256B. Topological Groups and Their
Representations. Prerequisite: consent of the
instructor. Topological groups and their basic
properties. Haar measure. Compact groups and their
representations. Duality and Fourier analysis. Locally compact abelian groups.

258A-258B. Commutative Banach Algebras. Prere-
quisites: course 246 and courses 255A and 255B. The
Gel'fand theory of commutative Banach algebras.
Applications to harmonic analysis on locally com-

Covariant differentiation

tensors on n-dimensional manifolds

for elliptic, and boundary value problems.

Application to physical problems.

partial differential equations.

Green's functions, spectral theory of Laplace's

forms; linear inequalities.

Students may not receive

courses.

Introduction to Relativity

Introduction to the theories of hydrodynamic

instability and the non-statistical description of tur-

periodic solutions and singular integral equations.

Asymptotic and Perturbation Methods III

(treated 276A-276B). Prerequisite: 276A-276B or equivalent. Students may not receive

courses numbered 276C.) Prerequisites: courses 150A-

and Turbulence

fluid mechanics and magneto-

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Professional Course in Method

370. The Teaching of Mathematics. Prerequisite: course 31B, 3B, or 4B and senior standing. A critical inquiry into present-day tendencies in the teaching of mathematics.

Individual Study and Research

596. Directed Individual Study or Research. (> to 1 courses) Read individual reading and study on a project approved by a faculty member, which may be preparation for the master’s essay. May be repeated for credit, but only two such courses may be applied toward the master’s degree unless departmental approval is obtained.

599. Research in Mathematics. (> to 2 courses) Study and research for the Ph.D. dissertation. May be repeated for credit.

MEDICAL HISTORY
See Department of Anatomy.

METEOROLOGY
See Department of Atmospheric Sciences.

MICROBIOLOGY

(Deartment Office, 5304 Life Sciences Building)

R. John Collier, Ph.D., Professor of Microbiology.
Frederick A. Eiserling, Ph.D., Professor of Microbiology.
C. Faust, M.D., Professor of Molecular Biology in Microbiology (Chairman of the Department).
Jane Lascelles, Ph.D., Professor of Microbiology.
Randal J. Martinez, Ph.D., Professor of Microbiology.
Donald P. Nierlich, Ph.D., Professor of Bacteriology.
Sydney C. Pickett, Ph.D., Professor of Microbiology.
Eli E. Sercarz, Ph.D., Professor of Microbiology.
John H. Stilliker, Ph.D., Adjunct Professor of Microbiology.
Black G. Stevens, D.V.M., Ph.D., Professor of Virology.
Meridian Ruth Ball, S.D., Emeritus Professor of Bacteriology.
Gregory J. Jann, Ph.D., Emeritus Professor of Bacteriology.
William R. Romig, Ph.D., Professor of Bacteriology.
Eli E. Sercarz, Ph.D., Professor of Microbiology.

Preparation for the Major

Biology 4A-4B or 5, 7; Chemistry 11A-11B-11C-11CL, 21, 23, 25; Mathematics 3A-3B-3C (or 31A-31B-31C), Physics 6A-6B-6C (or 8A-8B-8C-8D).

Pre-major

Students (new, transfer, or change of major) desiring to major in microbiology will first register as pre-microbiology students. After a minimum of two quarters in this status, pre-microbiology students may register to the microbiology major on completion of the following: Ten of the 14 courses required in preparation for the major, completion of Microbiology 101 with a grade of C or better and upon the advisor’s approval, one or more units may be applied toward the major’s degree. Additional units beyond this requirement, with a grade of C or higher, may be applied toward this major.

The Major

The degree program in Microbiology has as its goals not only the introduction of the student to general and medical Microbiology, but also to the inextricably related approaches of biochemistry, genetics, immunology, and molecular biology. To qualify a student for study in these fields, a preliminary study is required. The student is then prepared for the advanced discussion of specialized topics related to information in the upper division courses. These include, in addition to the broad topics of general and molecular microbiology presented in Microbiology 101, 102, and 103, courses in the subcellular structure and physiology of bacteria, genetics, and specialized courses in microbiology which include advanced laboratory techniques. Upon completion of this course the student may choose elective courses from a diversity of microbiology-related topics to complete the program. It is this combination of rigor in the study of fundamentals and diversity and flexibility in making up the actual microbiology major that makes this program appropriate preparation for those planning careers in a laboratory of microbiology or biochemistry, or for further studies leading to higher academic or professional degrees in such fields as molecular biology, medicine, dentistry, biochemistry, pharmacology, immunology, genetics, cellular, physical, and molecular biology.

Microbiology 101, 102, 103, 111, 112, M132, M185; Chemistry 152. One additional course chosen from Microbiology upper division courses. Two or three (to make total of 11 full courses) additional upper division Microbiology courses from departmental list or courses from other science departments chosen with the approval of the Department. In addition to requirements for graduation prescribed by the College of Letters and Science, the student is required to have a grade point average of 2.0 (C) in the Department of Microbiology major. Additionally, a student must obtain a C or better in Microbiology 101, 102, 103 before continuing with further departmental upper division courses. A student repeating one of these courses must obtain a grade of B or better to remain in the major.

Graduate Study

The Department of Microbiology in The College of Letters and Science offers programs of study leading to the M.A. and Ph.D. degrees in Microbiology (see the Graduate Division). The general University regulations for admission to and requirements for these programs are described in the Announcement of the Graduate Division. For admission to the graduate program in Microbiology, the student must have completed an undergraduate major in microbiology or biochemistry, or in a related field such as biochemistry or biophysics, with superior scholastic achievement. In addition to microbiology, the following are also required in our undergraduate program: calculus; introductory physics; general physiology; comparative genetics; general, organic, and biochemistry. A student may be admitted with background deficiencies to be remedied prior to or concurrent with the graduate program. Financial aid is available to qualified graduate students in the form of teaching assistantships, traineeships and research assistantships. More detailed information may be obtained by writing to the Graduate Adviser, Department of Microbiology.

Advisement

Each graduate and undergraduate student must confer with a departmental adviser upon entrance and at least once during every subsequent quarter. Departmental advisers are assigned in Life Science 5304.

Lower Division Courses

6. Introduction to Microbiology. Lecture, three hours. Not open for credit to students having credit for Microbiology 10, 101, Biology 4A-4B or 5, 6, 7, 8, or equivalent courses taken elsewhere. For the non-technical student; an introduction to the biology of microorganisms (bacteria, viruses, protozoa, algae, fungi), their significance as model systems for understanding fundamental cellular processes, and their role in human affairs. The staff (F,W,Sp).

10. General Microbiology. Lecture, three hours; laboratory-discussion, six hours. Prerequisite: Microbiology 4A-4B, or 5, 7; Chemistry 11A, 15. For Health Sciences students; not open for credit to students with credit in Microbiology 101; does not substitute for Microbiology 101 in the major. An introduction to the biology of bacteria and their role in diseases of man. The Staff (Sp).

Upper Division Courses

101. Fundamentals of Bacteriology. Lecture, three hours; laboratory, discussion, six hours. Prerequisite: Microbiology 101 and Chemistry 152. A survey of the structure, physiology, ecology and applications of bacteria. Ms. Lascelles (Sp), Mr. Rittenberg (F).

102. Introductory Virology. Lecture, three hours; laboratory, four hours. Prerequisite: Microbiology 101. Biological properties of bacterial and animal viruses stressing methods of detection, interactions with host cells and multicellular hosts.

Mr. Berk, Mr. Romig, Mr. Stevens (W).

103. Host-Parasite Interactions. Lecture, four hours; discussion, one hour. Prerequisite: Microbiology 101 and Chemistry 152. A survey of the host-parasite interactions; host responses to invasion; mechanisms of virulence, bacteriophage, mechanisms; discussion on the immunity to infection by bacteria. Mr. Martinez (Sp).

105. Bacterial Diversity. Lecture, three hours; laboratory, six hours. Prerequisite: course 101. The biology of the major groups of bacteria, and the application of elective culture procedures.

Mr. Rittenberg (Sp).

106. Principles of Microbial Ecology. Lecture, three hours; laboratory-discussion, six hours. Prerequisite: Microbiology 101 and Chemistry 152. The major study programs in Microbiology majors have been completed Microbiology 101. An introduction to the interactions of microbes and their environment, stressing the basic biological, biochemical, and physiological elements of the growth in selected habitats and systems.

Mr. Mah, Mr. Nierlich (W).

108. Hematology. (4 course) Prerequisite: senior standing and consent of the instructor. Diagnostic procedures used for the study of normal and pathological blood cells.

Mr. Yuya (W).

110. The Microbiology of Infection. Lecture, three hours; laboratory, six hours. Prerequisite: Microbiology 101, 102 and Chemistry 152, or consent of the instructor. The salient characteristics of bacteria, rickettsiae, and viruses, both pathogenic and adventitious, associated with diseases of man.

Mr. Pickett (F).

110C. The Laboratory Diagnosis of Infection. Lecture, two hours; laboratory, nine hours. Prerequisite: Microbiology 110. Techniques in the laboratory examination of clinical material.

Mr. Pickett (W).

111. Structure and Assembly in Bacteria. Lecture, three hours, discussion, one hour. Prerequisite: Microbiology 101 and Chemistry 152, or consent of instructor. A review of the knowledge of the structural organization of procaryotic cells. Emphasis on isolation methods, chemical composition, structure and assembly of subcellular components, including membranes, walls, flagella, ribosomes and viruses.

Mr. Collier, Mr. Eiserling, Ms. Wisnieski (W).

112. The Biochemistry of Bacterial Growth. Lecture, three hours. Prerequisites: Microbiology 101,
119. Phage and Bacterial Genetics. Lecture, three hours. Prerequisite: courses 102, M132, or consent of instructor. The major patterns of gene transfer and recombination, with emphasis on mechanisms of transmission and recombination, epimems and viral reproduction.

M132. Comparative Genetics. (Same as Biology M132.) Lecture, three hours; discussion, one hour. Prerequisite: M130 or consent of instructor. An introduction to the evolution of gene function, the molecular basis of hereditary variation, and evolutionary theory.

M138. Immune System. Lecture, three hours. Prerequisite: M132 or consent of instructor. An introduction to the molecular basis of the immune response.

151. Principles of Food Microbiology. Lecture, three hours. Prerequisite: course 101 or equivalent with consent of instructor. An introduction to the fundamentals of food microbiology. Emphasis is on basic microbiological principles as they apply to food processing and production. The approach is scientific and oriented to industrial and technological applications.

M185. Immunology. (Same as Biology M185 and Microbiology and Immunology M186.) Laboratory, four hours. Prerequisite: M135 and consent of instructor. Student presentation of selected papers from the literature. Major emphasis is on basic and applied aspects of immunology, cellular and molecular aspects of humoral and cell-membrane reactions.

M186. Immunology Laboratory. (4 course) Same as Biology M186 and Microbiology and Immunology M186.) Laboratory, four hours. Prerequisite: course M185 and consent of instructor. Student presentation of selected papers from the literature. Major emphasis is on basic and applied aspects of immunology, cellular and molecular aspects of humoral and cell-membrane reactions.

M187. Immunology Seminar. (4 course) Same as Biology M187 and Microbiology and Immunology M187.) Discussion, two hours. Prerequisite: course M186 and consent of instructor. A forum for critical analysis of research papers.

M211. Advanced Immunology Workshops. (No Credit) Same as Microbiology and Immunology M211.) Lecture, one hour; discussion, two hours; laboratory, three hours. Prerequisite: consent of instructor. Combined laboratory, lecture and seminar sessions covering specialized subjects and methods in immunology will be offered in intensive periods of two to three days at appropriate times.

M212. Laboratory Procedures in Immunological Research. (4 course) Same as Immunology M212.) Prerequisite: course M185 or equivalent and consent of instructor. 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 2-3 days. Successful completion of four workshops constitutes the requirements for one course. Enrollment is limited to 25. May be repeated for credit if different projects are undertaken. Grade S/U. Successful completion of this course is mandatory for students in the Immunology major.

M218. Membrane Biology Laboratory. Lecture, three hours; discussion, one hour. Prerequisite: courses 101 and 102 and consent of instructor. An introduction to the molecular biology of membranes and membrane traffic. Emphasis is on the application of techniques to the study of membrane proteins and their functions.

M219. Membrane Biology Seminar. Lecture, one hour. Prerequisite: consent of instructor. Seminar courses which integrate topics in membrane biology and sponsored by the Molecular Biology Institute. These international symposia feature leading researchers in selected areas of molecular biology. Students registering for one of these seminars will receive an abstract booklet for the symposium and will use the abstracts as the starting point for weekly presentations on the topics to be treated at the symposium. The student will in this way prepare for participation in the symposium. Topics will be announced each year on September 1 by the Department of Microbiology and the Molecular Biology Institute.

Mr. Fox and the Staff (W).

222A-222L. Advanced Topics in Microbiology. (4 course each) Lecture and discussion, two hours. Emphasis is on topics of current interest in the field of microbiology. The subject matter of this course will be in an advanced field of microbiology in which the instructor has special proficiency. The fields for each quarter will be announced in the Schedule of Classes. Course will be taught Fall, Winter and Spring.

The Staff.

225. Biochemical Methods in Microbial and Cell Biology. (2 courses) Lecture and discussion, three hours: laboratory, twelve hours. Prerequisite: consent of instructor. Emphasis is on techniques for purification and characterization of proteins, including cell disruption, column chromatography, gel electrophoresis, ultracentrifugation, various optical methods, and use of radiotopes.

Mr. Collier, Mr. Nierlich, Mr. Martinson (W).

M226. Chromosome Structure and Regulation. (Same as Biological Chemistry M226, Biochemistry M226, Chemistry M226, and Microbiology and Immunology M226.) Lecture, three hours. Prerequisite: consent of instructor. Lectures and panel discussions on the structural, functional and genetic organization of eukaryotic chromosomes. Satisfactory/un satisfactory grades are used for this course.

Mr. Martinson, Mr. Tobin, Mr. Wall (W).

M230A. Structural Molecular Biology. (4 course) Same as Biology M230A, Chemistry M230A, and Molecular Biology 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, nuclear acid analysis, and studies on viruses and protein crystals.

Mr. Eiserling (F).

M230B. Structural Molecular Biology. (4 course) Same as Biology M230B, Chemistry M230B, and Molecular Biology M230B.) Lecture, two hours; discussion, one hour. Prerequisite: Physics 6C, Mathmatics 3C and consent of instructor. Selected topics from the following: principles of biological structure; structures of globular proteins and RNA; fibrous proteins, nucleic acids, and polysaccharides; harmonic analysis and Fourier transforms; principles of electron, neutron, and X-ray diffraction; optical and computer filtering; three-dimensional reconstruction.

Mr. Eiserling (W).

M230C. Structural Molecular Biology Laboratory. (4 course) Same as Biology M230C and Chemistry M230C.) Laboratory, 10 hours. Prerequisite: consent of instructor, based on a written research proposal. Structures of macromolecules and supramolecular structures, emphasizing quantitative microscopy, high resolution techniques, nuclear acid analysis, and studies of viruses and protein crystals.

Mr. Eiserling (F).

M230D. Structural Molecular Biology Laboratory. (4 course) Same as Biology M230D and Chemistry M230D.) Laboratory, ten hours. Prerequisite: course M230B concurrent. Methods in structural biology, including protein crystallization with electron microscopy of macromolecules and supramolecular structures, emphasizing quantitative microscopy, high resolution techniques, nuclear acid analysis, and studies of viruses and protein crystals.

Mr. Eiserling (F).

M239. Laboratory Techniques in Nucleic Acid Research. (2 courses) Same as Biology M239.) Lecture, two hours; discussion, one hour; laboratory, 12 hours (open lab). Prerequisite: consent of instructor. Procedures in the manipulation of nucleic acids, including: isolation of DNA and RNA
and physical and chemical characterization by several means; characterization of circular DNA molecules by electron microscopy, gradient centrifugation and restriction enzyme analysis, in vitro transcription, hybridization analysis, Mr. Nierlich, Mr. Simpson (Sp)

250. Seminar in Microbial Metabolism. (¼ course) Ms. Lascelles, Mr. Rittenberg

251. Seminar in Regulation and Differentiation. (¼ course) Graded S/U only. Mr. Nierlich, Mr. Wilcox

252. Seminar in Medical Microbiology. (¼ course) Mr. Pickett

253. Seminar in Biochemistry of Host Defense Mechanisms. (¼ course) Lecture and discussion one hour. Prerequisite: consent of instructor. Discussion of the literature dealing with host defense mechanisms. The biochemical mechanisms of action of host defense will be stressed. May be taken for letter grade or S/U. Mr. Collier, Mr. Martinez

255. Seminar in Bacterial Viruses. (¼ course) The Staff

256. Seminar in Microbial Genetics. (¼ course) Mr. Eisering, Mr. Romig

M257. Seminar in Host-Parasite Relationships. (¼ course) Lecture and discussion one hour. Prerequisite: consent of instructor. This course discusses recent advances in our knowledge of host-parasite interactions and means of controlling the parasites. Mr. Miller, Mr. Pickett

M258A. Advanced Immunology. (¼ course) Lecture, three hours; discussion, one hour. Prerequisite: Microbiology and Immunology M258A; formerly numbered M258. Prerequisite: consent of instructor. This two-term lecture discussion course is designed to provide continuity between the basic immunology courses and the original research literature. The major aspects of the immune system will be intensively examined with emphasis on fundamental principles and on advances of the past five years. The first term will consist of lectures dealing with the development of B and T lymphocytes and the interaction of these two lymphocyte subpopulations in the production of immunoglobulin. In addition to the lectures there will be five discussion sessions for those enrolled in the course. To be offered in the Fall Quarter of each academic year, Grade or S/U. Mr. Fahey, Mr. Stevens (F)

M258B. Advanced Immunology. (¼ course) (Same as Immunology M258B.) Prerequisites: the equivalent of Microbiology M185 or Microbiology and Immunology 201 and M258A or consent of instructor. A continuation of M258A which will consider the details of antibody structure, T lymphocyte function and selected topics of broad immunological significance. To be offered in the Winter Quarter of each academic year. Mr. Clark (W)

M266. Immunology Forum. (¼ course) Lectures on the fundamentals of Immunology M260.) Lecture, two hours. Prerequisite: Microbiology M185. A broad range of current topics in immunology will be presented and discussed at an advanced frontier level. A LA.-wide, general graduate-level seminar involving faculty, postdoctoral immunologists, and graduate students from diverse departments. The Staff

M263. Cellular Immunology Seminar. (¼ course) (Same as Microbiology and Immunology M263.) Prerequisite: consent of instructor. Critical discussions of the current literature in T and B cell immunology with emphasis on molecular mechanisms. Mr. Sercarz

M264. Molecular Basis of Atherosclerosis. (¼ course) (Same as Biological Chemistry M264 and Chemistry M264.) Prerequisite: course M261 or equivalent with consent of instructor. The course will cover the biochemistry, morphology and physiology of atherosclerosis. Emphasis will be placed upon the chemistry of lipoproteins and the role of plasma lipoproteins on the regulation of tissue lipid metabolism and the development of atherosclerosis. The Staff

285. Seminar in Biological Membranes. (¼ course) Lecture and discussion, one hour. Prerequisites: consent of instructor. A review of current research literature on molecular topics in membrane biology. Mr. Fox (F)

M293. Major Concepts in Oncology. (Same as Dentistry M293, Microbiology and Immunology M293 and Pathology M293.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Course designed for graduate students contemplating research in oncology. Lecture, 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.

M298. Seminar in Current Topics in Molecular Biology. (¼ course) (Same as Biological Chemistry M298, Biology M298, Chemistry M298, Microbiology and Immunology M298 and Molecular Biology M298.) Prerequisites: enrollment must be approved by the instructor. Adviser of the Interdepartmental Molecular Biology Ph.D. Committee. Each student enrolled conducts or participates in discussions on assigned topics. The Staff

Individual Study and Research

596. Directed Individual Research. (¼ to 3 courses) The Staff

598. Research for Master's Thesis. (¼ to 3 courses) The Staff

599. Research for Doctoral Dissertation. (¼ to 3 courses) The Staff

M268. Advanced Immunology. (¼ course) (Same as Immunology M258B.) Prerequisites: the equivalent of Microbiology M185 or Microbiology and Immunology 201 and M258A or consent of instructor. A continuation of M258A which will consider the details of antibody structure, T lymphocyte function and selected topics of broad immunological significance. To be offered in the Winter Quarter of each academic year, Grade or S/U. Mr. Fahey, Mr. Stevens (F)

598. Research for Master's Thesis. (¼ to 3 courses) The Staff

999. Research for Doctoral Dissertation. (¼ to 3 courses) The Staff

MICROBIOLOGY

Graduate Study

The M.A. and Ph.D. degrees in Microbiology are offered in the Department of Microbiology. College of Letters and Science. More detailed information regarding admission requirements and opportunities for graduate study is available upon request. The Staff

MICROBIOLOGY AND IMMUNOLOGY

(Department Office, 43-239 Center for Health Sciences; Graduate Student Affairs Office, 43-312 Center for Health Sciences)

John L. Fahey, M.D., Professor of Microbiology and Immunology/Immunology and Oncology, and Professor of Microbiology and Immunology. (Chairman of Department)

William H. Hildemann, Ph.D., Professor of Microbiology and Immunology/Immunology and Immunogenetics.

Deoter S. Howard, Ph.D., Professor of Microbiology and Immunology/Molecular Biology (Vice Chairman of the Department)

David T. Imagawa, Ph.D., Professor of Pediatrics and Immunology/Immunology. (Vice Chairman of the Department)

William J. Martin, Ph.D., Professor of Microbiology and Immunology/Immunology/Immunogenetics.

James N. Miller, Ph.D., Professor of Microbiology and Immunology/Bacteriology.

Deb P. Nayar, D.V.M., Ph.D., Professor of Microbiology and Immunology/Molecular Biology.

A.F. Rausman, Jr., M.D., Ph.D., Professor of Microbiology and Immunology/Virology.

Jack C. Stevens, M.D., Ph.D., Professor of Microbiology and Immunology/Immunology, Professor of Bacteriology, and Professor of Neuroneurological Sciences.

Marietta Voge, Ph.D., Professor of Microbiology and Immunology/Parasitology.

Felix O. Wettstein, Ph.D., Professor of Microbiology and Immunology/Molecular Biology (Vice Chairman of the Department)

Teledor H. Work, M.D., M.P.H., D.T.M&#39;H., Professor of Microbiology and Immunology, Professor of Infectious and Tropical Diseases, and Professor of Preventive Social Medicine.

Ruth A. Boek, M.D., Ph.D., Emeritus Professor of Microbiology and Immunology/Bacteriology, Emeritus Professor of Public Health, and Emeritus Professor of Pediatrics.

John F. Kessel, Ph.D., Professor of Microbiology and Immunology/Infectious Diseases.

Margaret I. Selker, Ph.D., Emeritus Professor of Microbiology and Immunology/Immunology.

Stephen Zamerblod, Ph.D., Emeritus Professor of Microbiology and Immunology/Immunogenetics.

Benjamin Bonavida, Ph.D., Associate Professor of Microbiology and Immunology.

George Fareed, M.D., Associate Professor of Microbiology and Immunology/Immunology.

Sidney H. Golub, Ph.D., Associate Professor of Microbiology and Immunology/Immunology and Immunogenetics, Emeritus Professor of Immunology.

Jerrold A. Turner, M.D., Associate Professor of Microbiology and Immunology, Emeritus Professor of Pediatrics.

Ralph Wall, Ph.D., Associate Professor of Microbiology and Immunology/Molecular Biology.

David McVicker, M.D., Ph.D., Emeritus Associate Professor of Microbiology and Immunology.

Henry E. Weimer, Ph.D., Emeritus Professor of Microbiology and Immunology/Immunology and Immunogenetics, Emeritus Professor of Immunology.

Robert F. Ashman, M.D., Assistant Professor of Microbiology and Immunology/Immunology, Assistant Professor of Pediatrics.

Ronald H. Stevens, Ph.D., Assistant Professor of Microbiology and Immunology/Immunology.

Jacob Ziegelmboim, M.D., Assistant Professor of Microbiology and Immunology/Immunology and Oncology, Assistant Professor of Medicine.

Seymour Freman, Ph.D., Associate Clinical Professor of Microbiology and Immunology.

Margery L. Cook, Ph.D., Associate Research Virologist.

Nina Dabrowa, Ph.D., Associate Research Virologist.

Yuko S. Mullen, M.D., Ph.D., Assistant Professor of Immunology.

Yuri A. White, Ph.D., Lecturer in Microbiology and Immunology.

The Department of Microbiology and Immunology in the School of Medicine offers the Ph.D. degree in microbiology and immunology. Graduate study may be in the fields of bacteriology, immunology, immunogenetics, microbial genetics, mycology, parasitology, virology, viral oncology, tumor biology, molecular biology, or cell biology. The graduate program is primarily designed for students seeking advanced training leading to the Ph.D. degree in any one of these special fields, or for students with a broader interest in the biology of infectious agents, immunology and host-parasite relationships who may elect to combine two or more fields.

Admission to Graduate Status

For admission to the graduate program, a student must meet the requirements of the Graduate Division, and must hold an approved bachelor's degree with a major in either the biological or physical sciences. Candidates are selected on the basis of an evaluation of the applicant's potential for graduate work as determined by:

1. Undergraduate, and where applicable, graduate academic record.

2. An interview with members of the Department, when needed.

3. Letters of recommendation.

4. Graduate Record Examination.

Requirements for the Doctor's Degree

1. The general Graduate Division requirements (see Graduate Division). (Proficiency in a foreign language is not required.)

2. Course Requirements:

   a. Microbiology and Immunology 202 survey course or equivalent.

    b. Directed Individual Study or Research 596 – participation in the laboratory rotation program.

   c. Three courses in biochemistry. (Prerequisites: Mathematics through calculus and general physical chemistry.)
NOTE: For key to symbols, see page 74

Microbiology and Immunology

245

Immunochemistry

M211. Advanced Immunology Workshop. (No Credit) (Same as Microbiology M211.) Prerequisite: consent of instructor. Combined laboratory, lecture and seminar sessions covering specialized subjects and methods in immunology will be offered in intensive periods of two- to three-day duration at appropriate times.

246. Immunogenetics. (% course) Review of current literature in the field of immunogenetics, with emphasis on fundamental studies. Bonavida (W).

247. Immunology. (% course) Review of current literature in the field of immunology, with emphasis on specific and immunologic principles and techniques. Selected topics will be discussed and results interpreted; conclusions and experimental methods will be evaluated.

248. Microbiology and Immunology. (24 courses) Lectures and laboratory. Study of infectious agents of human disease with emphasis on host-parasite relationships and immunologic phenomena in immunity and disease, including identification of bacteria, fungi, animal parasites and viruses, and principles of prevention, treatment and laboratory diagnosis. For medical students only.

250. Medical Mycology. (24 courses) Prerequisite: Microbiology 101, 103 and 185. Recommended Microbiology 110. Consent of instructor may be obtained in special cases. A study of the morphology, physiology, and pathogenicity of fungi causing human and animal disease.

251. Microbiology Seminar. (2 courses) Same as Microbiology M251. Prerequisite: M185 or equivalent and the consent of the instructor. Seminar for upper division students. The course will focus on a limited number of situations and methods in immunology which will be offered in intensive periods of two- to three-day duration at appropriate times.

252. Seminar in Immunology of Cancer. (4 course) Prerequisite: consent of the instructor. Review of recent literature in the field of immunology, biology and biochemistry of cancer with emphasis on fundamental studies involving cell-mediated immunity, humoral response, tumor specific antigens and new techniques. Reports on scientific meetings will be discussed and evaluated.

253. Seminar in Medical Parasitology. (4 course) Review of current and recent literature in the field of medical parasitology, emphasizing experimental
work of medical or public health importance. Students will be expected to prepare reviews of selected subjects, and to discuss the contributions of various workers from the standpoint of experimental and theoretical results, their interpretation and their evaluation.

Mrs. Voge (Sp)

255. Seminar in Medical Mycology. (4% course)
Review of current and recent literature in the field of medical mycology, with emphasis on the host-parasite relationships in the human and animal mycoses. Students will be expected to prepare reviews of selected subjects and to discuss contributions of various workers from the standpoint of experimental methods, results, their interpretation and evaluation. Must be taken in conjunction with 210 by Graduate students. Graded S/U.
Mr. Howard (Sp)

M257. Seminar in Host-Parasite Relationships. (4% course)
(Same as Microbiology M257.) This course discusses recent advances in our knowledge of host-parasite interactions and means of controlling the parasites.
Mr. Miller, Mr. Pickett (Sp)

M293. Major Concepts in Oncology. (Same as Microbiology M293, Dentistry M293, and Pathology M293.) Prerequisite: graduate standing or consent of instructor. Course is designed for graduate students contemplating research in oncology. Lecture topics include cancer, chemotherapy, inheritance, membranes, macromolecular synthesis and control, cell growth and division, physical, chemical, and viral oncogenesis, epidemiology of cancer; tumor immunology; principles of cancer surgery, radiation therapy and chemotherapy.
Mr. Golde (W)

Cell Biology and Virology

208. Animal Virology. Prerequisites: courses in general biochemistry and in general microbiology, including virology. Consent of the instructor may be obtained in special cases. Recommended for advanced undergraduate students majoring in a major in public health, biology or microbiology and for graduate students with an interest in any field of biology or chemistry. The course encompasses an overview of animal viruses including viral structure, virus cell interaction, virus replication and viral oncogenesis. Special emphasis is placed in understanding the molecular mechanism involved in the control and regulation of replication, transcription and translation of viral genome and its complex interaction with host.
Mr. Nayak (Sp)

M226. Chromosome Structure and Regulation. (Same as Microbiology M226, Biology M226, Biological Chemistry M226 and Chemistry M226.) Prerequisite: consent of instructor. Lectures and panel discussions on the structural and functional organization of euchromatic and heterochromatic regions. Graded S/U.

250. Topics in New Biology. Lectures and student seminar presentations. A review of selected current topics in molecular and cell biology. Topics will be selected from recent experimental results in the organization and function of immunoglobulin genes in eukaryotic cells. Graded S/U.
Mr. Wall (W)

256. Seminar in Viral Oncology. (4% course)
An advanced research seminar designed to consider the current developments in the field. Selection of current subjects and publications dealing with tumor viruses, oncogenesis, development, and cellular regulation.
Mr. Baluda (E, W, Sp)

257. Co-Seminar in Animal Virology. (4% course)
Prerequisites: Animal Virology 208 or must be concurrently enrolled in course 208 and the consent of the instructor. Critical review and analysis of the selected papers in the field. Topics will include structure and biology of animal viruses and virus-host interaction at the cellular and molecular level.
Mr. Nayak

271. Research Seminar in Virology. (4% course)
Prerequisite: consent of instructor. Selected topics in virology including viral structures, host virus interaction, and regulation of viral and host gene expression will be presented and discussed in depth.
Mr. Nayak (Sp)

M298. Seminar in Current Topics in Molecular Biology. (4% course) Same as Biological Chemistry M298, Biology M298, Chemistry M298, Microbiology M298, and Molecular Biology M298.) Prerequisite: Approval by the instructor and the Graduate Adviser of the Interdepartmental Medical Biology Ph.D. Committee. Each student enrolled conducts or participates in discussions on assigned topics. May be repeated for credit.

Individual Study and Research

596. Directed Individual Study or Research. (5% to 1 course) Laboratory by arrangement. Consent of Graduate Adviser. The Staff

597. Preparation for the Qualifying Examination for the Ph.D. in Microbiology and Immunology. (4% to 1 course)

599. Research for and Preparation of the Doctoral Dissertation in Microbiology and Immunology. (4% to 2 courses)
Prerequisite: Bacteriology and/or Biochemistry. Research on an original problem in the field of Microbiology and Immunology. To be selected by the graduate student with the advice of the instructor. Fields of study may be in bacteriology, immunology, immunogenetics, microbial genetics, mycology, parasitology, virology, viral oncology, tumor biology, or cell biology.

The Staff

MILITARY SCIENCE

(Department Office, 127 Men's Gymnasium)

Peter A. Cray, Maj., U.S.M.C., Lieutenant Colonel, Military Police Corps, Professor of Military Science.

Eric K. Kuma, Maj., Major, Chemical Corps, Assistant Professor of Military Science.

Lawrence C. Hinke, M.S., Captain, Signal Corps, Assistant Professor of Military Science.

Frederick R. Jones, M.Ed., Captain, Air Defense Artillery, Assistant Professor of Military Science.

Charles Tillman, M.A., Captain, Infantry, Assistant Professor of Military Science.

Army Reserve Officers' Training Corps

The department offers a general Military Science curriculum which conforms to the academic pattern of the UCLA campus. Military Science classes are open to students majoring in areas other than Military Science. Students may receive credit by completing the Advanced Course, two years of Junior ROTC in high school, and two years of college

The Staff

ARMY RESERVIST STUDENTS

Students who have served in the reserves for two years may receive credit for two years of college by enrolling in the Reserve Officers' Training Corps. Students who have served in the reserves for three years may receive credit for four years of college

ARMY ROTC STUDENTS

Students who have served in the reserves or are members of the National Guard, may receive credit for two years of college by enrolling in the Army Reserve Officers' Training Corps. Students who have served in the reserves or are members of the National Guard, may receive credit for four years of college by enrolling in the Army Reserve Officers' Training Corps.

Army ROTC scholarships are available for various terms to selected applicants. Applicants pay all costs associated with tuition, books, and other student fees. In addition, scholarship recipients receive a subsistence allowance of $100 per month for the academic year. Full four-year scholarships are available to high school seniors selected by national competition.

The active duty obligation for those students electing to enter the Reserve or National Guard is only three months. Students accepting ROTC Scholarships, a commission in the Regular Army, or who choose to enter the Active Army will serve longer terms. ROTC students desiring to obtain advanced degrees may be granted a delay in reporting to their initial assignment. For further information contact the Department of Military Science located in the Men's Gym, telephone 825-7328, or 825-7361.

Four-Year Program. Students are enrolled in the Basic Course (Freshman and sophomore years) on a voluntary basis. Upon completion of the Basic Course and entrance into the Advanced Course (Junior and Senior years), students are required to execute a contract with the Department of the Army agreeing to complete the Advanced Course, enlist in the United States Army Reserve, and accept a commission if offered. Advanced Course students receive a subsistence allowance per academic month, military science books, and uniforms.

Two-Year Program. This program is primarily designed for students with prior military service or three years of Junior ROTC in high school. Students who have received prior military experience and have less than four years of schooling remaining may qualify for this program by attending a ROTC basic camp offered in the summer. Students who choose to enter the Active Army will serve longer terms and are paid for camp attendance. Upon successful completion of this basic camp, the student will enter the advanced course under the same requirements as stated for the four-year program.

11. U.S. Defense Establishment. (4% course) A study of the evolution of the U.S. Department of Defense; includes a study of the military services, with emphasis on the U.S. Army.

Cap. Jones


Cap. Jones

13. Theory of Warfare. (4% course) Inquiry into the theory, nature, causes, and elements of warfare, with attention also directed to the evolution of weapons. (see World War II Studies)

Cap. Jones

21. United States Military History. (4% course) Prerequisite: CADET: Completion of Military Science 11, 12, and 13 or equivalent. NON-CADET: College student. In depth study of U.S. Army from 1755-1860 with emphasis on leaders and combat actions. An introduction to some of the major strategies and relationships to the men leading and serving in the U.S. Army.

Cap. Tillman

22. United States Military History. (4% course) Prerequisite: CADET: Completion of Military
Science 11, 12, and 13 or equivalent; NON-CADET: College student. In depth study of the U.S. Army from the beginning of the Civil War to World War II (1860-1938) with emphasis on leadership at all levels and campaigns involving the U.S. Army. Emphasis on the development of strategy and combat operations of both sides. Cap. Tillman

23. United States Military History. (4 course) Prerequisite: CADET: Completion of Military Science 11, 12, and 13 or equivalent; NON-CADET: College student. In depth study of the U.S. Army from World War II to present, with emphasis on strategies and leadership on both sides.

Cap. Tillman

111. Psychology of Leadership. (3 course) Prerequisite: CADET: Completion of Basic Course or equivalent; NON-CADET: Upper division standing. Introduction to Psychology 10 (for both). Familiarization of the student with current concepts and issues in the behavioral sciences which builds the theoretical framework for understanding human behavior in relation to the basic problems of management and the organizational context of leadership. Emphasis is placed on the leader/manager problems of directing and controlling resources.

Maj. Azuma

112. Theory of Learning Applied to Teaching I. (3 course) Prerequisite: CADET: Completion of Basic Course or equivalent; NON-CADET: Upper division standing. An introduction to psychology theories to support development of knowledge, skills and attitudes necessary for the instructing/teaching application. Emphasis is placed on the education/instructional process.

Maj. Azuma

113. Theory of Learning Applied to Teaching II. (3 course) Prerequisite: CADET: Completion of Basic Course or equivalent; NON-CADET: Upper division standing. A study of instructional processes, learning strategies, techniques for appleying education, role of testing including evaluation and analysis. Emphasis is placed on improvement of teaching and group processes.

Maj. Azuma

123. Military Legal Systems. (3 course) Prerequisite: CADET: First year Advanced Military Science; NON-CADET: Upper division standing. An introduction to the theory and application of military law and legal systems. Course focuses on the Uniform Code of Military Justice and the role of the accused under the constitution. LTC Gray

124. Military-Social Relations. (3 course) Prerequisite: CADET: First year Advanced Military Science, Management 190, and Political Science 138A, or equivalent; NON-CADET: Upper division standing, Political Science 138A, or equivalent. An advanced study of the U.S. Army as a professional organization: its relationship to society, professional ethics; and social problems. Capt. Hinkle

125. Decision-making. (3 course) Prerequisite: CADET: one introductory course in Probability and Statistics, one course in Computer Science and Management 190; NON-CADET: same as for cadet; consent of instructor. Theory of decision-making, functions of decision-making process, optimizing decisions, information systems, operations research, systems management. Capt. Hinkle

MOLECULAR BIOLOGY (INTERDEPARTMENTAL)

(Molecular Biology Institute Bldg. Room 171)

D.E. Atkinson, Ph.D., Professor of Chemistry
Marcel A. Baldaia, Ph.D., Professor of Viral Oncology
Paul D. Boyer, Ph.D., Professor of Chemistry
William R. Berk, Ph.D., Professor of Biology
R. Collier, Ph.D., Professor of Microbiology
David S. Eisenberg, Ph.D., Professor of Molecular Biology in Chemistry
D. E. Eisenberg, Ph.D., Professor of Microbiology
John Fessler, Ph.D., Professor of Molecular Biology in Biology
C. Fred Fox, Ph.D., Professor of Molecular Biology in Microbiology
Dean G. Glitz, Ph.D., Professor of Biological Chemistry
Isaac M. Harary, Ph.D., Professor of Biological Chemistry
James A. Lake, Ph.D., Professor of Molecular Biology in Biology
George Laties, Ph.D., Professor of Plant Physiology
Donald P. Nierlich, Ph.D., Professor of Microbiology
George Popjak, Ph.D., Professor of Psychiatry and Biological Chemistry
Dan S. Ray, Ph.D., Professor of Molecular Biology in Biology
W.R. Romig, Ph.D., Professor of Microbiology
Winston A. Saher, Ph.D., Professor of Molecular Biology
Verne N. Schumaker, Ph.D., Professor of Molecular Biology in Chemistry
Larry Simpson, Ph.D., Professor of Cell Biology
Frits S. Stoopman, Ph.D., Professor of Biology
Errol Smith, Ph.D., Professor of Biological Chemistry
S. Smith, Ph.D., Professor of Chemistry
Erwin A. Smith, Ph.D., Professor of Chemistry
Clara Sorgo, Ph.D., Professor of Biology
Philip Thrombey, Ph.D., Professor of Molecular Biology in Biology
Felix Wettstein, Ph.D., Professor of Molecular Biology in Microbiology and Immunology
Samuel Wildman, Ph.D., Professor of Biology
Irving Zabin, Ph.D., Professor of Biological Chemistry
Clifford Brunk, Ph.D., Associate Professor of Biology
George C. Fareed, Ph.D., Associate Professor of Molecular Biology in Microbiology and Immunology
Richard N. Halpern, M.D., Associate Professor of Medicine in Medicine
Harvey Herschman, Ph.D., Associate Professor of Biological Chemistry
Bruce Howard, Ph.D., Associate Professor of Biological Chemistry
John M. Jordan, Ph.D., Associate Professor of Molecular Biology in Chemistry
Harumi Kasamatsu, Ph.D., Associate Professor of Molecular Biology in Biology
David S. Segman, Ph.D., Associate Professor of Biological Chemistry
Randolph Wall, Ph.D., Associate Professor of Microbiology and Immunology
William T. Wickner, Ph.D., Associate Professor of Molecular Biology in Biological Chemistry
C. Wilcox, Ph.D., Associate Professor of Microbiology
Patrice Zamenhof, Ph.D., Associate Professor of Biological Chemistry
Andrew J. Berk, Ph.D., Assistant Professor of Microbiology
Steven G. Clarke, Ph.D., Assistant Professor of Chemistry
Jay Grolla, Ph.D., Assistant Professor of Molecular Biology in Chemistry
Michael Grunstein, Ph.D., Assistant Professor of Molecular Biology in Biology
Judith Lengyel, Ph.D., Assistant Professor of Molecular Biology in Biology
Harold B. Martinson, Ph.D., Assistant Professor of Chemistry
Emil Ruizler, Ph.D., Assistant Professor of Molecular Biology in Biological Chemistry
Robert M. Sweet, Ph.D., Assistant Professor of Molecular Biology in Chemical Biology
Allan J. Tobin, Ph.D., Assistant Professor of Biology
Richard I. Weiss, Ph.D., Assistant Professor of Chemistry
Bernardine Wiesz, Ph.D., Assistant Professor of Microbiology

Undergraduate Study

Undergraduate studies which readily lead to advanced work or employment in the molecular biology area include undergraduate majors in biochemistry, biology, or physics. Students may wish to supplement their course programs in consultation with the appropriate undergraduate advisers. In making preparation for graduate study, attention should be given to recommendations given below for preparation for the Ph.D. degree in Molecular Biology.

The Ph.D. Program

A program of study for the Ph.D. degree is supervised by the Interdepartmental Degree Committee for Molecular Biology. The Molecular Biology Institute was established to encourage fundamental research in molecular biology, biophysics, and biochemistry, and to support graduate instruction for qualified students. Members and Associates of the Institute supervise graduate work in a variety of areas as indicated later. Applicants for the Ph.D. degree program should have a major in a biological or physical science or mathematics. Course work should include mathematics through calculus, one year each of general and of organic chemistry, a year each of physics and physical chemistry based on use of calculus, and a year of biology. Modification in undergraduate requirements may be made for qualified candidates with interests in certain areas. Candidates may enter the program with some course deficiencies but with anticipation these will be made up in the early part of the graduate program.

The Individual Study Program

An individual program of study will be worked out for each student depending upon his particular background and area of specialization. A Student Guidance Committee selected from Molecular Biology Institute Members and Associates will be appointed by the Graduate Adviser for each first-year student. The Committee will meet with the student before the beginning of each quarter and once again at the end of the year. Its functions are to aid in the design of a course program tailored to fit the needs of the student, to help select three laboratories, to acquaint him with his experiments, and to evaluate the student's progress. The supervision of the student's second-year curriculum and research will be transferred from the Guidance Committee to the student's Dissertation Research Supervisor, together with the Graduate Adviser. It is anticipated that by the conclusion of the second year, the student will have completed his scientific work, his qualifying examinations, and made a start on his dissertation research.

Minor Field of Study

Each student is required to design and follow a program leading to proficiency in some subject related to, but outside of, Molecular Biology. This requirement can be satisfied by a set of courses or other program of individual study developed in consultation with the Graduate Adviser following guidelines established by the Ph.D. Committee.

Qualifying Examination

A qualifying examination for the doctoral degree usually will be held 1½ to 2 years after entrance to the program. The examination consists of a written research proposal and its defense. The Examination Committee may also require an additional written examination at its discretion.

Dissertation Research

The final period of the student's graduate training is devoted to intensive research in one of a variety of fields:

1. Molecular Basis of Cellular Functions – The molecular changes, controls, and structures involved in development and in evolution; the understanding of neural processes at the molecular level; the chemical, genetic, and physical changes involved in carcinogenesis and in possible cancer control.


3. Structure-Function Relationships of Cell Biopolymers – The detailed linear and 3-dimensional structure and chemical properties of nucleic acids and proteins, in both the isolated state and living organism; biological ultrastructure as revealed by x-ray analysis and electron microscopy.

4. Bioenergetics, Catalysis, and Control Molecular nature of active transport, photosynthesis, oxidative phosphorylation, and related processes; mechanisms of biological catalyses; control mechanisms in catalysis, metabolism, growth and differentiation.

The program leading to a doctoral program in molecular biology will usually require four years.

501. Cooperative Program. (9 to 2 courses) Prerequisites: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

NOTE: For key to symbols, see page 74
MUSIC

(Department Office, 2449 Schoenberg Hall)

Elaine R. Barkin, Ph.D., Professor of Music
Peter C. Croosley, Ph.D., Associate Professor of Music
Frank A. D'Acon, Ph.D., Professor of Music
Paul E. Des Marais, M.A., Professor of Music
Marcie Gerow, Ph.D., Professor of Music
Marie Louise Collard, M.A., Professor of Music (Chairman of the Department)
Edwin H. Hanley, Ph.D., Professor of Music
Richard A. Hodson, Ph.D., Professor of Music
Nazia A. Ianaidzhoyb, Ph.D., Professor of Music
Henri Lazareff, M.A., Professor of Music
Ian C. Mangadé, Ph.D., Professor of Music
David Morton, Ph.D., Professor of Music
I. H. K. Nketa, B.A., Professor of Music
Colbert Reemtsma, B.A., Professor of Music
Abraham A. Schwadron, M.S., A.D., Professor of Music
Robert M. Stevenson, Ph.D., Professor of Music
Roy E. Travis, M.A., Professor of Music
Robert L. Tucher, Ph.D., Professor of Music
D.K. Wilgus, Ph.D., Professor of English and Anglo-American Folklore
Manole T. Hood, Ph.D., Emeritus Professor of Music
Boris A. Kreemendel, Ph.D., Emeritus Professor of Music
W. Thomas Matsumoto, Ph.D., Emeritus Professor of Music
Robert U. Neblon, Ph.D., Emeritus Professor of Music
H. Jan Popper, Ph.D., Emeritus Professor of Music
Clarence E. Sawhill, M.D., Emeritus Professor of Music
Alden B. Ashforth, Ph.D., Associate Professor of Music
Murray C. Bradshaw, Ph.D., Associate Professor of Music
Malcolm S. Cole, Ph.D., Associate Professor of Music
Frederick F. Hammond, Ph.D., Associate Professor of Music
William R. Hutchinson, Ph.D., Associate Professor of Music
James W. Porter, M.A., Associate Professor of Music
Paul V. Reale, Ph.D., Associate Professor of Music
David E. Draper, Ph.D., Assistant Professor of Music
Max L. Harrell, Ph.D., Assistant Professor of Music
Charlotte A. Herb, Ph.D., Assistant Professor of Music
Kathleen R. Murray, Ph.D., Assistant Professor of Music
A. J. Racy, Ph.D., Assistant Professor of Music
James E. Westbrook, D.M.A., Assistant Professor of Music
Robert S. Winter, M.A., Assistant Professor of Music

... Assistant Professor of Music

Salome R. Arkatov, M.A., Lecturer in Music
Edward Auer, B.M., Lecturer in Music
Audrey B. Bouch, B.M., Lecturer in Music
W. Thomas Marconnet, Ph.D., Emeritus Professor of Music
Marian E. Calhoun, M.A., Lecturer in Music
Mario Carta, Adjunct Assistant Professor of Music
Alan J. Gilbert, Lecturer in Music
Jeffrey Goldman, M.A., Lecturer in Music
Gary C. Gray, M.M., Lecturer in Music
John A. Guarnieri, Lecturer in Music
John L. Haines, M.A., Lecturer in Music
Thomas F. Harmon, Ph.D., Lecturer in Music and University Organist
Johanna Harris, Lecturer in Music
Maureen D. Hooper, Ed.D., Lecturer in Music
Freeman K. James, M.A., Senior Lecturer in Music
John T. Johnson, B.M., Lecturer in Music
Bess Karp, M.A., Lecturer in Music
Leon Knapoff, Ph.D., Professor of Geophysics and Physics
Samuel Kramlichnix, Senior Lecturer in Music
Kohla Ladekpo, B.F.A., Lecturer in Music
Sidney M. Lazur, M.A., Lecturer in Music
Danny Lee, Lecturer in Music
Gatby Lewis, Ph.D., Lecturer in Music
James R. Lewis, B.M., Lecturer in Music
Tsun Y. Liu, Lecturer in Music
Shirley L. Marcus, B.M., Lecturer in Music
Peter Mecurcius, M.A., Lecturer in Music
Theodore Norman, Lecturer in Music
Barbara R. Patton, B.A., Lecturer in Music
Stanley E. Plummer, Lecturer in Music
David Rakson, B.M., Lecturer in Music
Sven H. Reher, M.A., Lecturer in Music
Peggy A. Shiffeld, M.M., Lecturer in Music
Donald J. Stephenson, M.M., Lecturer in Music
Sherron W. Stokes, Lecturer in Music
Paul O. W. Tanner, M.A., Lecturer in Music
Milton Thomas, Lecturer in Music
Suenoubo Kogi, Lecturer in Music
Alexander Tenger, Lecturer in Music
Aube Taeko, B.M., Lecturer in Music
Allan Vogel, M.M.A., Lecturer in Music
Roger Wagner, M.D., Senior Lecturer in Music
Denn E. Weiss, M.M., Senior Lecturer in Music
Erwin Windward, B.A., Lecturer in Music
Ikuko Yuge, Lecturer in Music

Requirements for Entering Music Students

All applicants for admission are required to pass an audition in their principal performing medium. Students planning to complete a major in music whether or not they have taken courses elsewhere, are required to pass a piano skills test. Aptitude and achievement tests are required for enrollment in Theory of Music 17A. These examinations are administered during registration week only. Students with exceptional ability and achievement may satisfy lower division requirements in Theory of Music by examination. Further information may be obtained from the Department of Music.

General Requirements

All music majors will be required to complete two years of applied music instruction in their major performance medium at the intermediate or advanced level. All music majors must enroll in a performance organization for no credit each quarter in residence. They must participate in a minimum of two different organizations, one of which must be from 90A-90H or 91A-91Z.

Preparation for the Major

Courses 17A through F, 26A-26B-26C. Three quarters of either French, German, or Italian, or the equivalent. Students who plan to specialize in Historical or Systematic Musicology are urged to take six quarters, or the equivalent, of German.

The Major

A minimum of 10 courses in the upper division, including 105 or 107A, 126A-126B-126C, five courses selected from one of the specializations listed below and one course free elective for all areas except music education.


6. Systematic Musicology: five courses from the following list, taken on the advice of the advisor and with the approval of the undergraduate adviser in systematic musicology. Music 103A-103B, 108, 138, one course from 140A-140B-140C, 149, 187, 199, and Anthropology 144.

Graduate Division

The Music Department offers programs leading to the degrees of Master of Arts and Doctor of Philosophy in the fields of historical musicology, ethnomusicology, systematic musicology, composition, and music education and a program leading to the degree of Master of Fine Arts in Performance Practices. New students will be admitted for gradu-
(1) written exercises in harmony and counterpoint, (2) harmonic and formal analysis; (3) identification of music terms; (4) an essay on two historical subjects: (5) two-part dictation, chord recognition, sight-singing and piano sight-reading; for M.F.A. a solo performance in the student's principal performing medium. For M.F.A. applicants an audition. In addition to the above, a comprehensive examination will be required of all students. Graduate Committee of the Music Department will determine the student's fitness for graduate study.

Teaching Credentials.

Students may earn credentials for teaching music and other subjects in California elementary and secondary schools. Completion of the Teacher Credential Program in the Teacher Education Laboratory is required. Consult with the Graduate School of Education (Moore Hall) for information. Consult with music education faculty adviser is required.

Requirements for the Master of Arts Degree

General Requirements.

For general requirements see Graduate Division. Students are required to complete a minimum of nine courses, five of which must be advanced examination courses that may be counted toward the minimum of nine courses include: 103A-103B, 104A-104B, 106A-106B, 107B-107C, 108, 109A-109B-109C, 110A-110B, 111A-111B-112B, 119A-119B-119C, 120A-120B, 127C-127D-127E, 140A-140B-140C*. 141, 142A-142B, 143A-143B, 145, 146A-146B-146C, 147, 148, 149, 151A-151B, 153A-153B-153C, 156A-156B, 157, 157, 1580, 1581, 184, 185, 187. A maximum of one course in chamber ensembles may be counted toward the degree. Course 598 serves to guide the preparation of the thesis and should normally be taken during the last quarter of residence.

**Will not count for students whose emphasis is ethnomusicology.

Language Requirement. A reading knowledge of German, French, or Italian is required. Candidates in the Opera specialty must also be fluent in speaking one of these languages. In addition, all M.F.A. students are required to pass a departmental examination covering musical performance terminology in French, German, and Italian.

Course of Study.

Each student must plan his program under the guidance of the graduate adviser in his field of concentration. Course requirements for each field of concentration are as follows:

1. Historical musicology: 200A, 200B, either 210 or 211 (students planning to enter the Ph.D. program are strongly advised to take both 210 and 211 in the first year of residence), three terms of 260A-260F and one seminar from 250A-250B, 256, 257, 266A-266B, or 269. The remaining courses are elective upon the recommendation of the graduate adviser.

2. Systematic musicology: 200A, 200B, three terms of 272, and one term of 255, 269, 273 or 275. The remaining courses are elective upon the recommendation of the graduate adviser.

3. Ethnomusicology: 190A, 190B, 200A, 200B, the remaining courses are elective upon the recommendation of the graduate adviser.

4. Composition: 200A, one from 251A-3, three terms of 252 one of which may be substituted with 596A; and 266A or 266B. The remaining courses are elective upon recommendation of the graduate adviser.

5. Music Education: 185, 200A, 200B, and two terms of 270A-270F. The remaining courses are elective upon the recommendation of the graduate adviser. Students may elect either the Thesis Plan (see below) or the Comprehensive Examination Plan. The Comprehensive Examination Plan is not acceptable for future Ph.D. candidates. In lieu of a thesis the student is expected to pass a comprehensive examination consisting of a three-hour examination in one selected area (general, choral, instrumental); a three-hour examination in the background of music education; a two-hour examination in either theory, composition, historical musicology, systematic musicology or ethnomusicology.

Thesis

In historical musicology, ethnomusicology and systematic musicology the thesis will be an extended essay, or if the student wishes to do so, a work for chamber ensemble or orchestra. Students in music education may elect either the Thesis Plan or the Comprehensive Examination Plan (see program in Music Education above).

Final Examination

The final examination is oral and includes both dis-
administered by the same committee. After successful completion of the examinations, a doctoral committee will be appointed. This committee guides the student in writing his dissertation.

Language Requirement: A reading knowledge of French and German is required in systematic musicology, ethnomusicology and music education; of French, German and a third language approved by the Council in historical musicology.

In the field of composition two language requirements are required (one of which must be German or French), the other language may be chosen from Latin, Italian, or Russian.

Course of Study

Each student must plan his program under the guidance of the graduate adviser in his field of concentration. Course requirements for each field of concentration are as follows:

1. Historical musicology: 200A, 200B, 210, 211, first terms of 260A-260F and one seminar from 250A-250B, 256, 257, and 266A-266B or 269. Students who have received the M.A. in historical musicology from UCLA will normally take a minimum of two terms of 260A-260F in the Ph.D. program. Students may complete their residence requirements by electing courses from the 100 series listed under the general requirements for the M.A. and 200 level courses upon recommendation of their adviser.

2. Systematic musicology: 200A, 200B, first terms of 271 and one term of 255, 269, 273 or 275. Students who have received the M.A. in systematic musicology from UCLA will normally take a minimum of two terms of 271 in the Ph.D. program. Students may complete their residence requirements by electing courses from the 100 series listed under the general requirements for the M.A. and 200 level courses, upon recommendation of their adviser.

3. Ethnomusicology: 190A, 190B, 200A, 200B, and six seminars of which at least three shall be 280, the others to be chosen from 248, 253, 254A-254B, or 271. Students who have received the M.A. in ethnomusicology from UCLA will normally take a minimum of three terms of 252 in the Ph.D. program. Students may complete their residence requirements by electing courses from the 100 series listed under the general requirements for the M.A. and 200 level courses, upon recommendation of their adviser.

4. Composition: 200A, one from 251A-D, six terms of 252, two of which may be substituted with 596A; 266A or 266B. Students who have received the M.A. in composition from UCLA will normally take a minimum of three terms of 252 in the Ph.D. program. Students may complete their residence requirements by electing courses from the 100 series listed under the general requirements for the M.A. and 200 level courses, upon recommendation of their adviser.

5. Music Education: 185, 200A, 200B, 274, and five terms of 270A-270F. Students who have received the M.A. in music education from UCLA will normally take a minimum of three terms of 270A-270F in the Ph.D. program. Under advisement two of the three terms of 270A-270F may be completed under special studies (596C). Students who wish to pursue a specialization in music education in Ethnomusicology will be required to take 185, 190A-190B, 200A, 200B, three terms of 270A-270F, 274, and two courses from 141-143, 145-149, 151, 161-163, 181-183, 181-183, 200A-200B, 281-288, and 140C. M180, M181, M187, 254A-254B, 255A, and 270A-270F. Students may complete their residence requirements by electing courses from the 100 series listed under the general requirements for the M.A. and 200 level courses, upon recommendation of their graduate adviser.

Graduate Examination

Before he is admitted to candidacy, the student must pass a series of written and oral qualifying examinations; after he has completed his dissertation he must pass a final examination, concerned primarily with the dissertation.

Fields of Historical Musicology

The written examinations consist of the following: (a) history of musical styles in Western civilization (three hours); (b) analysis of form and style (three hours); (c) an examination to demonstrate a basic knowledge of music in non-Western cultures (two hours); (d) a choice of one or more: aesthetics of music, the history of musicology and organology (two hours). Further written examinations, totaling six hours are required in two areas: (1) Historical Musicology; one area to be selected from: Ancient, Medieval, Renaissance, or Baroque music; the other area from Classic, Romantic or 20th-Century music. (2) Ethnomusicology; two areas to be selected from contrasting musical cultures. Students may elect the Music Education area if one is to encompass historical, philosophical and psychological bases, the other to be selected from music education emphasizing elementary, secondary, or college-university levels. For the student in Music Education with a minor in Ethnomusicology the second examination will relate the fields of Ethnomusicology and Music Education.

In the field of Systematic Musicology, the written qualifying examinations consist of the following: (a) history of musical styles in Western civilization (three hours); (b) analysis of form and style (three hours); (c) an examination to demonstrate a basic knowledge of music in non-Western cultures (two hours); (d) a general examination in systematic musicology (two hours); (e) two areas to be selected from acoustics, psychology of music, aesthetics of music, sociology of music and organology (six hours).

In the field of Composition, the written qualifying examination consists of the following: (a) composition of a short homophonic and a short polyphonic piece (three hours); (b) general history of music (three hours); (c) one or more of the following: acoustics, psychology of music, aesthetics of music, music theory, musicology (two hours); (d) 20th Century Music (two hours); (e) analysis of form and style (three hours); and (f) music theory from the medieval period to the present, with optional emphasis on contrapuntal techniques; of music theory from the medieval period to the present, with optional emphasis on contrapuntal techniques.

Dissertation

In all fields but composition the dissertation will be an extended monograph. In the field of composition the dissertation will consist of (1) an extended composition accompanied by a short description of the process of composition, (2) an analytical monograph dealing with some aspect of 20th Century music.

Note: Check the Schedule of Classes for courses restricted to majors only.

Lower Division Courses

1. Fundamentals of Music. Five hours weekly, including two laboratory hours. Singing, ear training, reading music and harmonization of simple melodies are the basic skills developed in this course.

Mrs. Karp, Mrs. Patton
2A-2B-2C. Introduction to the Literature of Music. Five hours weekly, including two laboratory hours. 2A is preparatory to 2B; 2B is preparatory to 2C. Designed for the general university student. Will not count for the Music Major. A survey of the stylistic development of Western art music within its cultural context. 2A Great Choruses through the renaissance; 2B Monteverdi through Beethoven; 2C Schubert through the present.

Mr. Bradshaw
4A-4B-4C. Basic Piano for Music Majors. (No credit) Three hours weekly. Remedial class instruction in the fundamentals of piano. Miss Sheffield
5A-5B-5C. Fundamentals of Sound and Music of the World. (4 course each) Prerequisite: consent of the instructor. The acoustical make-up of sound (pitch, tone quality); tuning systems; modes and scales; harmony and polyphony, rhythm and meter; notational systems; relationships of music to culture. Laboratory: Ear training and instrumental techniques.

Mr. Drapper, Mr. Hutchinson
10. Computer Assisted Sight-Singing Laboratory. (3 course) Three hours weekly, including one laboratory hour. Introductions to the computer as a tool for the development of sight-singing skills through the use of a music computer, keyboard instrument, and voice. (Staff)

Contrapuntal Techniques. (4 course) Three hours weekly. Prerequisites: One year of music theory. Not open to students who have received credit for 17AB. Must be taken concurrently with and integrated into the student's part of the major curriculum. Mr. Des Marais
17A-17F. Theory of Music. Eight hours weekly, including four laboratory hours. Prerequisites: Aptitude, Achievement and the Piano Skills Test. Series must be taken in order A, B, C, D, E, F. An integrated study of theoretical and practical techniques. First Year: harmony through chromatic embellishment of diatonic progressions; elements of contrapuntal techniques; structural analysis; keyboard skills including open-score clef-reading and figured bass; modal and rhythmic dictation and sight-singing. Second Year: advanced harmony through modulations and total chromaticism; basic counterpoint; analysis; basic keyboard skills; dictation and sight-singing of modulating melodies.

The Staff
18A-18B-18C. Keyboard Techniques. (4 course lab) Two hours weekly. Prerequisites: courses 17A-17B-17C; 18A is prerequisite to 18B; 18B is prerequisite to 18C. This course is an intensive workshop in the development of keyboard skills and complete understanding of the modern and contemporary keyboard facility beyond 17C. Techniques of figured bass, score reading, transposition, and keyboard harmony will be stressed.

Mrs. Karp
19. Instrumentation. (4 course) Two hours weekly. Prerequisite: Two years of music theory. Open to students who have received credit for 17A through 17F at UCLA. The study of ranges and transpositions of all orchestral instruments; instrumental characteristics, exercises in orchestration. Staff
26A-26B-26C. History and Literature of Music I. Five hours weekly, including one laboratory hour. Prerequisites: courses 17A-17B-17C. 26A is prerequisite to 26B; 26B is prerequisite to 26C. The history and literature of music from the beginning to the baroque era with emphasis upon analysis of representative works of each style period. Materials selected will illustrate the history of style and changing techniques of compositions.

The Staff
60-65. Applied Study of Music Literature Intermediate. (1 course per year) For Music Majors Only. Private instruction of one hour per week. Prerequisite: Audition. May be repeated for credit in entire year sequence only. This course is offered in English or in Romance Languages. There will be requirements to complete the full three-quarter sequence, at the end of which a grade is given for all quarters of work. Students will be admitted in the Fall Quarters only. Students must present a practicum once during the academic year. Examination by jury in Spring Quarter.

Strings: 60A. Violin; 60B. Viola; 60C. Cello; 60D. String Bass; 60E. Harp; 60F. Classical Guitar; 60G. Viola da gamba; 60K. Lute.

Woodwinds: 61A. Flute; 61B. Oboe; 61C. Clarinet; 61D. Bassoon; 61E. Saxophone.


Percussion: 63. Percussion.

Keyboard: 64A. Piano; 64B. Organ; 64C. Harpsichord.

Applied studies in basic performance techniques and tutorial materials. 115A. Strings: 115B. Woodwinds, 115C. Brass; 115D. Percussion; 115E. Voice. The Staff

119A-119B-119C. Advanced Study and Conducting of Choral Literature. (4 course each) Three hours weekly. Prerequisites: courses 119A-119B; 119A is prerequisite to 119B; 119B is prerequisite to 119C. Advanced theory and practice of conducting: the study of representative choral works from the conductor's viewpoint.

126A-126B-126C. History and Literature of Music II. Five hours weekly, including one laboratory hour. Prerequisites: courses 126A-126B-126C. A study of music from 1750 to the present, with emphasis on the history and analysis of representative works of each style period. Materials selected will illustrate the history of style and changing techniques of composition. The Staff

127A-127F. Selected Topics in the History of Music. Three hours weekly. Special aspects of the music of each period, studied in depth. Each course may be repeated once for credit by graduate students only. 127A. Middle Ages; 127B. Renaissance; 127C. Baroque; Prerequisites: course 127A, 126A-126B-126C. 127D. Classic; Prerequisites: courses 127A-127B, 126A-126B-126C, and 127A. 127E. Romantic; Prerequisites: courses 127A-127B, 126A-126B-126C, and 127A. 127F. Twentieth Century; Prerequisites: courses 127A-127B, 126A-126B-126C, and 127A. The Staff

130. Music of the United States. Four hours weekly. Prerequisite: course 2A or consent of the instructor. A survey of art music from colonial times to the present.

131A-131B. Music of Hispanic America. Four hours weekly. Prerequisite: consent of the instructor. 131A is not prerequisite to 131B. Survey of music including attention to ethnic developments and Peninsular background. 131A. Mexico, Central America and the Caribbean Isles; 131B. Hispanic South America. Mr. Stevenson

132A-132B. Development of Jazz. Four hours weekly, including one laboratory hour. Prerequisite: course 2A or consent of the instructor. COURSE 132A is prerequisite to 132B. An introduction to jazz; its historical background and its development in the United States. Mr. Tanner

133. Bach. Four hours weekly, including two laboratory hours. The life and works of Johann Sebastian Bach. Mr. Harmon, Mr. Tusler

134. Beethoven. Four hours weekly, including two laboratory hours. The life and works of Ludwig van Beethoven. Mr. Hanley, Mr. Hudson

135A-135B-135C. History of the Opera. Five hours weekly, including one laboratory hour. 135A. Opera of the Baroque and Classical Periods; 135B. Opera of the Romantic Period; 135C. Opera of the Twentieth Century. Mr. Hammond, Mr. Winter

137A-137B. Psychology of Music. Four hours weekly. 137A: An introduction to the psychology of music; historical background and the broad field of study to include the use of music as a stimulus, tests and measurements, and related modes of musical behavior. 137B: A study of the psychological factors and problems in music from the points of view of the listener, performer, and composer.


139. History and Literature of Church Music. Four hours weekly. Prerequisite: consent of the instructor. A study of the forms and liturgies of western church music. Mr. Stevenson

140A-140B-140C. Musical Cultures of the World. Four hours weekly. Prerequisite: consent of the
instructor. 140A is not prerequisite to 140B, 140B 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; content will also be given to scale structure, instruments, musical forms and performance standards.

Mr. Jairazbhoy, Mr. Porter

141. Survey of Music in Japan. Three hours weekly. A survey of the main genres of Japanese traditional music, including Gagaku, Buddhist chant, Biwa music, and Shosha music, and the music used in various theatrical forms. Mr. Harrell

142A-142B. Music of the Balkans. Five hours weekly, including two laboratory hours. Prerequisites: courses 140A-140B-140C or consent of the instructor. Course 142A is prerequisite to 142B. 142A surveys the folk music of Bulgaria, including a study of eastern and western elements; performance on representative instruments; 142B investigates vocal and instrumental styles of other Balkan countries, with emphasis on Yugoslavia. (142A-142B is not open to those students who have had 142.)

143A-143B. Music of Africa. Five hours weekly, including two laboratory hours. Prerequisite: courses 140A-140B-140C or consent of the instructor. Course 143A is prerequisite to 143B. An investigation of the historical aspects, social functions and relationships of music to other art forms in selected areas of Africa. Mr. Nketa

144. American Popular Music. Five hours weekly, including two laboratory hours. Prerequisites: courses 140A-140B-140C or consent of the instructor. 144A is prerequisite to 144B. A survey of the history and characteristics of American popular music and its relationship to American culture, with emphasis on 20th-century popular music and its major composers, including a comparison between traditional pre-1950 popular music and trends in post-1950 popular music. Mr. Norton


146A-146B-146C. Studies in Chinese Instrumental Music. Four hours weekly, including one laboratory hour. Prerequisite: consent of the instructor. 146A is not prerequisite to 146B; 146B is not prerequisite to 146C. 146A: A study of the history, major sources, paleography, theory and philosophy of music in China. 146B: Introduction to various notational systems. Analysis of representative styles. 146A is not open for credit to students who have credit for 147.

147A-147B. Music of China. Five hours weekly, including two laboratory hours. Prerequisites: courses 140A-140B-140C, or consent of the instructor. 147A is prerequisite to 147B. 147A: History and theory of the music of China, including a survey of various instrumental techniques. 147B: Introduction to various notational systems. Analysis of representative styles. 147A is not open for credit to students who have credit for 147.

148. Folk Music of South Asia. Prerequisite: consent of instructor. An illustrated survey of some of the musical styles, systems and musical notations found in India and Pakistan, with special reference to the religious, social, economic, and cultural context of their occurrence. Mr. Jairazbhoy

149. The Anthropology of Music. A cross-cultural examination of music in the context of group behavior, and how musical patterns reflect patterns exhibited in other cultural systems; including economic, political, religious and social structure. Mr. Draper

151A-151B. History of Musical Performance Practices. Four hours weekly. Prerequisites: courses 17A-17F and 26A-26B-26C. A general survey of musical interpretation and re-creation from the viewpoint of stylistic authenticity. 151A Medieval and Renaissance; 151B Classic through 20th Century. Not open for credit to those who have had 151. Mr. Harmon

152. Survey of Music in India. Four hours weekly. A consideration of the main music genres in India, with particular reference to the religious, socio-cultural and historical background of music and the contributions of the great Indian composers. Mr. Jairazbhoy

153A-153B-153C. Music of the American Indians. Four hours weekly. American Indian music will be studied within the broader context of styles, cultural values, and sources. Films, recordings, lectures, and limited group singing and dancing will relate the music to the culture producing it. 153A: Musics of the Eastern, California-Yuman, Great Basin, and Northeast Coast areas. 153B: Musics of the Athabascan, Pueblo, Plains, and modern Pan-Indian trends; 153C: Sociology of American Indian Music with specific reference to the manner in which cultural values, prescriptions, oral traditions, language, and political advances have affected music of various tribes.

Mr. Draper, Miss Heth

M154A-154B. The Afro-American Musical Heritage. (Same as Folklore M154A-154B.) Four hours weekly. Prerequisite: course 144A is prerequisite to 154B. A study of the Afro-American rhythm, dance music, field hollers, work songs, spirituals, blues, and jazz; the contrast between West African, Afro-American and A.D.-Brazilian musical traditions. Mr. Dje Dje

156A-156B. Techniques of Electronic Music. (Formerly numbered 156.) Prerequisites: courses 107A or equivalent and consent of instructor. 156A is not open for credit to students who have credit for 156. 156A is the study of analog synthesizers and auxiliary equipment, tape techniques, and realization of original compositional materials. Mr. Ashworth

157. Music of Brazil. Four hours weekly. Prerequisite: consent of the instructor and some knowledge of Portuguese. History of ethnic and art music in Brazil with some reference to Portuguese antecedents. Mr. Stevenson

158. New Orleans Jazz. Three hours weekly. Major black and creole figures in the origin and development of jazz in New Orleans from the turn of the twentieth century through the nineteen-sixties, with emphasis on polycultural roots, local municipal traditions, and stylistic analysis. Mr. Ashworth

159. The Development of Rock. Four hours weekly. Prerequisite: consent of the instructor. The history of rock from the 1950's to the 1970's. An in-depth study of stylistic trends illustrated by pertinent examples and accompanied by extensive musical analysis. Mr. Stevenson

160A-160B. Applied Study of Music Literature: First. Four hours per year. For Music Majors Only. Private instruction of one hour per week. Prerequisite: Audition. May be repeated for credit in even number years only. This course is offered on an individual basis to students who wish to complete the full three-quarter sequence, at the end of which time a grade is given for all quarters of work. Students will be admitted in Fall Quarters only. Applied majors must perform in a noon concert once during the junior year and will be required a full recital in their senior year. All other students enrolled will be required to participate in a practicum once during the academic year. Examination by jury in Spring Quarter.


Woodwinds: 161A. Flute; 161B. Oboe; 161C. Clarinet; 161D. Bassoon; 161E. Saxophone.

Brass: 162A. Trumpet; 162B. French Horn; 162C. Trombone; 162D. Tuba.

Percussion: 163 Percussion.

Keyboard: 164A. Piano; 164B. Organ; 164C. Harpsichord.


175. Chamber Ensembles. (% course) Two hours weekly. Prerequisite: Audition. Students must be at the advanced level of their instrument to participate in the course. May be repeated for credit. Students must enroll in more than two sections per quarter and may receive credit for a maximum of 12 units toward the degree. Applied study of the performance practices of literature appropriate to the ensemble. The Staff

M180. Analytical Approaches to Folk Music. (Same as Folklore M180) Four hours weekly. Prerequisites: Music 5A-5B-5C. An intensive study of the methods and techniques necessary to the understanding of Western folk music. Mr. Porter

181. Folk Music of Central and Western Europe. (Same as Folklore M181) Four hours weekly. Prerequisite: Music 5A-5B-5C, or 140A, or 140B, or 140C, or consent of the instructor. An analysis of the folk musical styles of Europe, excluding the Balkans and Soviet Russia. Particular attention will be paid to the comparative study of European folk music. Mr. Porter

184. Experimental Research in Music. Three hours weekly. Prerequisites: courses 17A-17F and 26ABC, or consent of the instructor. Theories and processes in various modes of musical experimentation: physical, perceptual, psychological, pedagogical, quantification, statistical procedures. Recommended for music majors in all specializations. Mr. Murray

185. Historical and Philosophical Foundations of Music Education. Three hours weekly. Prerequisites: completion of the undergraduate specialization in music education. The development of music education in the United States according to established schools of thought. 187. Problems in Musical Aesthetics. Three hours weekly. Prerequisites: courses 17A-17F and 26ABC. Critical approach to musical problems of aesthetic analysis, description, values, theories; including both Western and non-Western conceptions. Recommended for all students in all specializations of music.

Mr. Schwadron

188A-188Z. The Master Composer. Four hours weekly, including one laboratory hour. A survey of the works of an outstanding composer in Western art music considered within the context of his age.

188A. Josquin; 188B. Palestrina; 188C. Monteverdi; 188D. Purcell; 188E. A. Scarlatti; 188F. Vivaldi; 188G. Handel; 188H. Haydn; 188I. Mozart; 188K. Schubert; 188L. Schumann; 188M. Berlioz; 188N. Chopin; 188P. Brahms; 188Q. Wagner; 188R. Verdi; 188S. Mahler; 188T. Debussy; 188U. Schoenberg; 188V. Stravinsky; 188W. Bartok; 188X. Copland; 188Y. Webern; 188Z. Ives. The Staff

189. The Symphony. Four hours weekly, including laboratory. A detailed 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.

Proseminars

190. Proseminar in Ethnomusicology. Three hours weekly. Prerequisites: courses 140A-140B-140C. Mr. Nketa

193. Proseminar in Music Education. (% course) Two hours weekly. Prerequisites: courses 17A-17B-17C. This course is designed to allow music education majors a specialization in the music education specialization. A historical and philosophical introduction to the field. Mr. Schwadron

195. Field Studies in Music Education. (% course) Four hours weekly, including two laboratory
hours. Prerequisite: course 193. Discussion and observation of current practices. Miss Hooper

199. Special Studies in Music. Prerequisite: senior standing, consent of the instructor and adviser, and a 3.0 grade-point average. Individual studies in Music resulting in a research project. May be repeated to a maximum of eight units. The Staff

Graduate Courses

Not open to undergraduate students. See College of Fine Arts, Unit Requirements.

200A. Research Methods and Bibliography. Three hours weekly. A survey of general bibliographic material in music. The Staff

200B. Research Methods and Bibliography. Three hours weekly. Prerequisite: course 200A. Guiding written and cultural theory from Ramey in historical musicology; systematic musicology, ethnomusicology, and music education. The Staff

210. Medieval Notation. Three hours weekly. Prerequisite: consent of the instructor. Vocal and instrumental notation; paleography of the period.

Miss Goller

211. Renaissance Notation. Three hours weekly. Prerequisite: consent of the instructor. Vocal and instrumental notation; paleography of the period.

Mr. Hudson

248. Seminar in Comparative Music Theory. Prerequisite: consent of the 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. Mr. Crossley-Holland

250A-250B. Seminar in the History of Music Theory. (Formerly numbered 250) Prerequisite: course 200A. 250A is not prerequisite to 250B. 250A: Music Theory from Antiquity through Zaroff. 250B: Music Theory from the Renaissance to the present. Mr. D’Accone, Mr. Maegaard

251A-251D. Seminar in Special Topics in Composition and Theory. Three hours weekly. May be repeated for credit. An intensive exploration of specialized aspects of composition. 251A: Orchestration; 251B: Specific media; 251C: Specific styles; 251D: Computational Analysis.

Mr. Ashforth, Mr. Des Marais

252A-252B-252C. Seminar in Composition. Three hours weekly. Prerequisites: courses 140A-140B-140C, 190A-190B, or consent of the instructor.

Mrs. Goller

254A-254B. Seminar in Field and Laboratory Methods in Ethnomusicology. Prerequisites: courses 190A-190B or consent of the instructor. Training includes experience in handling of technical apparatus for recording, processing and analyzing field projects.

Mr. Jairazbhoy

255. Seminar in Musical Instruments of the Non-Western World. Three hours weekly. Prerequisites: courses 140A-140B-140C, 190A-190B, or consent of the instructor. Mr. Crossley-Holland

256. Seminar in Musical Form. Three hours weekly. Prerequisites: courses 126A-126B-126C. The analysis of structural organizations in music.

Mrs. Goller

1257. Seminar in Music of the United States and Canada. Three hours weekly. Prerequisite: course 130.

M258. Seminar in Folk Music. Same as Folklore M2583. Three hours weekly. Prerequisite: consent of the instructor. Mr. Porter

260A-260F. Seminar in Historical Musicology. Three hours weekly. Prerequisites: courses 200A, 200B, 210 or 211. Students may enroll in 200B, 210 or 211 concurrently. May be repeated for credit: 260A. Medieval Music; 260B. Renaissance; 260C. Baroque; 260D. Classical; 260E. Romantic; 260F. General Topics. The Staff

261A-261F. Problems in Performance Techniques. Three hours weekly. Prerequisite: consent of the instructor. An investigation of primary source readings in performance practices as related to the period; analytical reports and practical applications in class demonstrations.

261A: Medieval; 261B: Renaissance; 261C: Baroque; 261D: Classical; 261E: Romantic; 261F: Contemporary.

Mr. Hammond, Mr. Winter

266A-266B. Seminar in Music of the Twentieth Century. Three hours weekly. Prerequisites: courses 126A-126B-126C. Students who have received credit for 266A may take either 266A or 266B. 266A: Discussion and analysis of the major works of the 20th Century before World War II. Emphasis will be placed on the study of groups of works written at the same time in history. 266B: Discussion and analysis of composers and their works from 1945 to the present.

Mrs. Barkin, Mr. Maegaard

269. Seminar in the History of European Instruments. Three hours weekly. Prerequisite: course 160B and consent of the instructor. May be repeated for credit.

Mr. Lazarof

270A-270F. Seminar in Music Education. Three hours weekly. Prerequisite: consent of the instructor. May be repeated for credit. 270A: Tests and Measurements; 270B: Non-Western Musics; 270C: Curriculum Innovations; 270D: Administration and Supervision; 270E: Historical Comparisons; 270F: General Topics.

Mr. Schadron

1272. Seminar in Systematic Musicology. Three hours weekly. Prerequisite: course 108 and consent of the instructor. May be repeated for credit.

273. Seminar in the Acoustics of Music. Prerequisite: course 108 or consent of the instructor. May be repeated for credit.

Mr. Jairazbhoy

1274. Seminar in the Philosophy of Music Education. Three hours weekly. May be repeated once for credit.

275. Seminar in Aesthetics of Music. Three hours weekly. Prerequisite: course 187, or consent of the instructor. May be repeated once for credit.

Mr. Clough, Mr. Hochstron

276. Seminar in the Psychology of Music. Three hours weekly. Prerequisites: course 184 or consent of the instructor. May be repeated for credit.

Selected topics in the psychology of music to include: recent findings in brain research, musical perception, learning, music therapy, affect, meaning, and measurement.

Mrs. Murray

280. Seminar in Ethnomusicology. Three hours weekly. Prerequisites: courses 190A-190B and 200A-200B. May be repeated for credit.

Mr. Crossley-Holland

281A-281B. Music of Indonesia. Three hours weekly. Prerequisite: consent of the instructor. The 2000-year old cultural history of Indonesia will serve as a background for the materials of this course. During the first quarter emphasis will be on the history of performing arts of Java, including an analytical and comparative concentration on music as well as exercises in the melodic writing of classical gending; a similar emphasis in the second quarter will be devoted to the music and performing arts of Bali. Concurrent participation in one of the Indonesian performance groups is required.

Mr. Harrell

282. Music of Iran and other Non-Arabic Speaking Communities. Three hours weekly. Prerequisite: consent of the instructor. A comparative study of the music of Iran and other related areas including Turkey, with particular reference to their historical and cultural background, sources on music theory and aesthetics, instruments, style, technique of improvisation and contemporary practice. Concurrent participation in the Near East Performance group is required.

Mr. Racy

1283. Music of Thailand. Three hours weekly. Prerequisite: consent of the instructor. A study of the traditional music of Thailand; historical background and intercultural influences, instruments and ensembles, theatrical and dance music, the music in social contexts, analysis of forms and styles through examination of representative compositions, with practice in composing in basic styles. Concurrent participation in the Thai performance group is required.

284. Music of the Arabic Speaking Near East. Three hours weekly. Prerequisite: consent of the instructor. A comparative study of the music cultures of Arabic speaking Near Eastern communities with particular reference to pre-nineteenth century Arabic sources on music theory and aesthetic, the second quarter will involve analysis of present-day forms, styles, techniques, and musical instruments. Concurrent participation in the Indian performance group is required.

Mr. Jairazbhoy


Mr. Nketia

288. Seminar in North American Indian Music. Three hours weekly. Prerequisite: consent of the instructor. A survey of representative musical styles of Native North American Indians, including problems of transcription, methods of analysis, symbolic implications of style, and an opportunity to be placed on interrelationship between music and cultural context. The influence of Western music in acculturative contexts will also be discussed.

Mr. Draper

Professors

270. Music in General Education. (½ course) Two hours weekly. Prerequisite: acceptance into the teacher training program through the School of Education. All music students shall take Music 370 concurrently with Education courses 100, 112, 312, 315, 318, 319. Required teaching hours are equivalent to credit up to six units. Critical discussions related to supervised teaching in progress.

Miss Hooper, Mr. James

600A-600B. Master Class in Applied Literature. One hour weekly. Prerequisite: consent of the instructor and two hours of performance laboratory per week. Prerequisite: Admission to the M.F.A. program. May be repeated for credit. Intensive study and preparation of musical literature in the area of specialization.

String Classes: 460A. Violin; 460B. Viola; 460C. Cello. Required for entrance to the M.F.A. program. Mr. N. Classical Guitar; 460G. Viola da gamba; 460K. Lute.

Woodwind Classes: 461A. Flute; 461B. Oboe; 461C. Clarinet; 461D. Bassoon; 461E. Saxophone.

Brass Classes: 462A. Trumpet; 462B. French Horn; 462C. Trombone; 462D. Tuba.

Perussion Class: 463. Percussion.

Keyboard Classes: 464A. Piano; 464B. Organ; 464C. Harpsichord.

472. Master Class in Opera. Three hours weekly. Prerequisite: consent of the instructor. Intensive study and preparation of opera literature. May be repeated for credit. The Staff

475. Master Class in Conducting. Three hours weekly. Prerequisite: consent of the instructor. Intensive study and preparation of musical literature in the specialized field of conducting. The Staff

Individual Study and Research
596A. Directed Individual Studies in Orchestration and Composition. (% to 1 course) May be repeated for credit. A maximum of two courses (eight units) may be applied for credit for the M.A. degree. The Staff

596B. Directed Individual Studies in MusicoL (4% to 1 course) The Staff

596C. Directed Individual Studies in Music Education. (% to 1 course) The Staff

597. Preparation for the Comprehensive Examination for the Master's Degree or the Qualifying Examination for the Ph.D. (% or 1 course) The Staff

598. Guidance of Master's Thesis or M.F.A. Final Project. (1 or 2 courses) M.A. candidates may apply 4 units toward degree requirements. M.F.A. candidates may apply 4 units toward degree requirements. May be repeated for credit. The Staff

599. Guidance of Doctoral Dissertation. (1 or 2 courses) The Staff

Related Courses in Other Departments

Dance 154. Music as Dance Accompaniment.
Folklore 106. Anglo-American Folk Song.
M213B. Finnish Folksong and Ballad.
M243A. The Ballad.
M243B. Problems in Ballad Scholarship.

NAVAL SCIENCE

(Department Office, 123 Men's Gymnasium)

George I. Thompson, M.A., M.S., Captain, U.S. Navy, Professor of Naval Science (Chairman of the Department).
Linda P. Richardson, M.A., Commander, U.S. Navy, Assistant Professor of Naval Science (Vice Chairman of the Department).
William T. Meyers, M.S., Lieutenant Commander, U.S. Navy, Assistant Professor of Naval Science.
George A. Carlson, B.S.E.E., M.B.A., Major, U.S. Marine Corps, Assistant Professor of Naval Science.
Dale R. Orness, M.S., Lieutenant, U.S. Navy, Assistant Professor of Naval Science.
Gregory B. Jones, M.S., Lieutenant Commander, U.S. Navy, Assistant Professor of Naval Science.

In June 1938, by action of the Secretary of the Navy and the Regents of the University of California, a Naval Reserve Officers' Training Corps (NROTC) was established on the Los Angeles campus. The primary objective of the NROTC is to provide an education at civil institutions which will qualify selected students for regular or reserve commissions in the U.S. Navy or Marine Corps as elected by the student.

The staff of the Department of Naval Science offers several programs:

1. Naval ROTC College Program: This is a four-year, non-schoolship program open to physically qualified men and women between the ages of 17 and 21. Freshmen, and sophomores in a five-year baccalaureate program, are the most likely candidates for this program. 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, the student will be commissioned as an Ensign, U.S. Navy Reserve or Second Lieutenant, U.S. Marine Corps Reserve. A three year active duty obligation is incurred. Application should be made in the summer or early in the fall quarter. Scholarships may be offered to highly qualified College Program students.

2. NROTC Two-Year Program: This program is open to academically and physically qualified students in their second year of undergraduate study. Applications are sought from UCLA students as well as incoming junior college transfers. After a six-week summer training period at the Naval Science Institute, students enroll in the NROTC Unit and are required to take the same obligations and privileges as in the College Program described above. U.S. citizenship is required and the age limit is 27 years at the time of graduation. Successful applicants should contact the Department of Naval Science no later than April 1st of their sophomore year of study.

3. Two-Year Scholarships: These programs are open to academically and physically qualified students in their second year of undergraduate study, who have had some background in college physics and calculus. As with the Two-Year Program described above, candidates will attend a summer Naval Science Institute before their junior year. They will receive full tuition, fees, book expense and $100 per month during their last two years. Upon graduation, they will receive Regular Navy commissions and enter nuclear power training or other Navy fields as Ensigns. Applications should be made by April 1st, usually in the sophomore year.

4. NROTC Scholarship Program: This is a nationwide competition open to physically qualified men and women between the ages of 17 and 21. U.S. citizenship is required. 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. Upon graduation, the student receives a commission in the Regular Navy or Marine Corps, with a four year active duty obligation. December 1st is the application deadline for Fall 60 admissions.

Naval Science courses may be taken as free elective courses and applied toward the total departmental course requirements. It is important to contact the Naval Science Department and the cognizant college or department before submitting the number of free elective courses for which Naval Science courses may be substituted.

For further information on program requirements, etc., contact the Professor of Naval Science, 123 Men's Gymnasium.

Freshman Year

1B. Naval Ship Systems I. (% 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 information of specific nations to utilize the oceans to attain national objectives. G. Carlson

Sophomore Year
20A. Seapower and Maritime Affairs. (% 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 information of specific nations to utilize the oceans to attain national objectives. G. Carlson

20B. Naval Ship Systems II. A study of naval weapons systems with emphasis on target designation and acquisition, methods of solving fire control problem and target detection systems. Analysis of transfer and feedback functions inherent in weapon systems. Infra-red, radar and sonar principles. D.E. Baugh

Junior Year
10A. Navigation I. A study of principles of piloting, rules of the road, shiphandling and basic concepts of multiple ship formations in ocean transit. Course includes in depth discussion of problems associated with high seas and inland water, applying to small craft and large warships as able. G. Jones

10B. Navigation II. Prerequisites: course 10A or consent of instructor. A continuation of Navigation I to include a detailed study of electronic and celestial navigation employed in the determination of a ship's position and track. Includes spherical trigonometry, mathematical analysis, sextant sights and the use of navigational aids. G. Jones

*103. Military Operations. A study of the evolution of warfare including historical and comparative considerations of the influence that leadership, political, economic, and sociological and technological development factors have had on warfare, and the influence they will continue to exert in the age of limited warfare. G. Carlson

*Courses to be taken by candidates for commissions in the Marine Corps or Marine Corps Reserve in lieu of courses 101A, 101B, 102B and 102C.

Senior Year
102A. Naval Leadership Management I. An examination of both current and classical leadership, management theories and their application to the military environment. Various aspects of the leadership process are examined in detail including interpersonal communication, counseling theory, moral and professional ethics, conflict resolution, and management of change. The unique leadership problems created by racism, sexism, alcoholism, and drug abuse are also discussed. W.T. Meyers

102C. Naval Leadership and Management II. Prerequisite: course 102B. A continuation of Naval Science 102A which examines current leadership and management utilized by the U.S. Navy. Areas covered include human resources management, personnel management, material management, and performance and career evaluation. W.T. Meyers

*104. Amphibious Operations. A study of the art of amphibious operations including the historical development of techniques used to project military power from sea to land. The evolution of amphibious doctrine and techniques is examined through study of the U.S. landings during World War II, the Korean Conflict and the Vietnam War. G. Carlson

NEAR EASTERN LANGUAGES AND CULTURES

(Department Office, 376 Kinsey Hall)

Amen Barani, Ph.D., Professor of Persian and History (Chairman of the Department). Arnold Band, Ph.D., Professor of Hebrew.
Andran Bogodrigiz, Ph.D., Professor of Turko and Iranica.
Susan A. Dassau, Ph.D., Professor of Near Eastern Languages.
Giorgio Bucellati, Ph.D., Professor of Ancient Near East and History.
Herbert A. Davidson, Ph.D., Professor of Hebrew.
Avedis K. Sanjanani, Ph.D., Professor of Armenian.
Hann-Peter Schmidt, Ph.D., Professor of Indo-Iranian.
Staussberger, Ph.D., Professor of Biblical and Near Eastern Semitics.
Wolfgang Liebou, Docteur-en-Lettres, Emeritus Professor of Hebrew.
Mohsen Perminoff, Ph.D., Emeritus Professor of Arabic.
John Callender, Ph.D., Associate Professor of Egyptology.
Thomas Jenchuck, Ph.D., Associate Professor of Biblical Studies.
Ismail Poonawala, Ph.D., Associate Professor of Arabic.
Yona Sabar, Ph.D., Associate Professor of Hebrew.
Claude-Francois Audet, Ph.D., Assistant Professor of Arabic.
Elizabeth Carver, Ph.D., Assistant Professor of Near Eastern Archeology.
and two quarter courses from History 137A-137B, three courses of Arabic 111A-111B-111C or 140A-140B; take 14 quarter courses as follows:

For a major in Hebrew the prerequisites are Hebrew 102A-102B-103C, 130A-130B-130C, 120C, 121A; 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 Jewish Studies adviser.

In addition to courses offered at UCLA a number of courses in Jewish studies offered at the University of Judaism are accepted by UCLA for concurrent enrollment credit. Additionally, an agreement between UCLA and the University of Judaism establishes a Joint Undergraduate Program of concurrent enrollment leading to an award of two degrees: Bachelor of Arts in Jewish Studies by the University of Judaism and Bachelor of Arts or Bachelor of Science by UCLA. A list of University of Judaism courses accepted for concurrent enrollment at UCLA as well as general information concerning the Joint Program are available from the office of the Division of the University of Judaism and the Honors Program Office of UCLA's College of Letters and Science.

Requirements for the Master's Degree

General Requirements. See Master's Degree.

Departmental Programs. The M.A. degree is offered in seven areas of specialization: (1) Ancient Near Eastern Civilizations; (2) Arabic; (3) Armenian; (4) Egypt (e.g., Semitics or Turkic); (5) Iranian; (6) Semitics, and (7) Turkish. The department follows the Comprehensive Examination Plan that does not require a thesis. The candidate's program of study will be devised by a guidance committee of at least three members of the department faculty under the chairmanship of his adviser. The requirement for admission to all the M.A. programs is a bachelor's degree or its equivalent in the language area chosen for the degree.

General Requirements. The requirements for all the M.A. degree programs are:

1. A minimum of nine upper division and graduate level courses, of which at least six courses must be on the graduate level. All candidates will be required to take one quarter of Near Eastern Languages and Literatures 200 (Bibliography and Methodology. The candidate may concentrate on either language or literature in his chosen field, but will be required to do work in both. In the case of the Ancient Near East, the candidate may concentrate on a combination of both language and literature with Near Eastern archaeology.

2. The candidate will be required to have competence in the history of his major culture area.

3. The candidate 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 his adviser. The student is also advised to acquaint himself with the historical, literary, religious, and social background of the various language areas of his interest.

A candidate specializing in the literatures of the Near East is required to achieve competence in two major languages in the second language area. The language other than English must be approved by the department and approved by the candidate's adviser. The student has the option of satisfying this requirement by one of the following methods: a) the student takes a departmentally administered examination; or b) the student achieves a pass in a foreign language examination taken at a recognized University of Judaism or Hebrew University by one of the following methods: a) the student takes a departmentally administered examination; or b) the student achieves a pass in a foreign language examination taken at a recognized University of Judaism or Hebrew University.

4. Upon completion of his course requirements, the candidate will be required to take a comprehensive final examination administered by the departmental guidance committee.

Specific Requirements. The specific requirements for the M.A. degree in the several areas of specialization in Ancient Near Eastern Civilizations will be required to study two ancient languages, one of which must be one of the major languages of the Ancient Near East (Ancient Egyptian, Akkadian, or Hebrew). The student is also advised to acquaint himself with the historical, literary, religious, and social background of the major area in which he is concentrating. The major area of concentration may be either the linguistic, literary, or archaeological aspect of the discipline. The candidate in Hebrew will be required to study Hebrew and another Semitic language; in Semitics, three Semitic languages; in Turkish, two Turkish languages; and in Arabic, Armenian and Iranian, one other related Near Eastern language in addition to his major language area.

Doctor of Philosophy Degree

General Requirements. See Doctoral Degrees.

Department Programs. The Ph.D. degree is offered in seven areas of specialization: (1) Ancient Near Eastern Civilizations; (2) Arabic; (3) Armenian; (4) Egypt (e.g., Semitics or Turkic); (5) Iranian; (6) Semitics, and (7) Turkish. The department follows the Comprehensive Examination Plan that does not require a thesis. The candidate's program of study will be devised by a guidance committee of at least three members of the department faculty under the chairmanship of his adviser. The requirement for admission to the Ph.D. program the candidate is expected to take is the M.A. degree in his field.

Specific Requirements. A candidate specializing in the literatures of the Near East is expected to take the equivalent of one year of graduate work in the language or languages of his major and one year of grammar in his field of concentration (e.g. Semitics or Turkish). He is also required to achieve competence in three related languages within his field of concentration with particular emphasis on two major languages. He is also required to achieve competence in the structural mastery of the languages and familiarity with their development and their position within the appropriate family of languages that are required. The candidate is expected to acquaint himself with the historical, literary, religious, and social background of the various language areas of his interest.

A candidate specializing in the literatures of the Near East is required to achieve competence in two major languages in the second language area. The language other than English must be approved by the department and approved by the candidate's adviser. The student has the option of satisfying this requirement by one of the following methods: a) the student takes a departmentally administered examination; or b) the student achieves a pass in a foreign language examination taken at a recognized University of Judaism or Hebrew University by one of the following methods: a) the student takes a departmentally administered examination; or b) the student achieves a pass in a foreign language examination taken at a recognized University of Judaism or Hebrew University.

A candidate specializing in the literatures of the Near East is expected to take the equivalent of one year of graduate work in the language or languages of his major and one year of grammar in his field of concentration (e.g. Semitics or Turkish). He is also required to achieve competence in three related languages within his field of concentration with particular emphasis on two major languages. He is also required to achieve competence in the structural mastery of the languages and familiarity with their development and their position within the appropriate family of languages that are required. The candidate is expected to take the examination in the second language not later than at the beginning of his first quarter in residence; the examination in the second language not later than at the beginning of the fourth quarter. The adviser may require an additional language skills test. The Ph.D. degree in all areas of specialization will be required to have a reading knowledge of two major modern European languages other than English. The choice of languages must be approved by the adviser. The student has the option of satisfying the language requirements by one of the following methods: a) the student takes a departmentally administered examination; b) the student achieves a pass in a foreign language examination taken at a recognized University of Judaism or Hebrew University.

Language Requirements. The candidates for the Ph.D. degree in all areas of specialization will be required to have a reading knowledge of two major modern European languages other than English. The choice of languages must be approved by the adviser. The student has the option of satisfying the language requirements by one of the following methods: a) the student takes a departmentally administered examination; b) the student achieves a pass in a foreign language examination taken at a recognized University of Judaism or Hebrew University.

Qualifying Examinations. The candidate in languages will be examined in three Near Eastern languages and the literary and historical background of at least one of them. The candidate in literature will be examined in the literatures written in two languages within the cultural area of his concentration, and the historical and cultural background of these languages with emphasis on one of them. The candidate 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.

Upon the successful completion of the written and oral qualifying examinations the student is eligible
Ancient Near East
(Akkadian, Aramaic, Phoenician, and Ugaritic are listed under Semitics.)

Upper Division Courses

2120A-2120B-2120C. Elementary Ancient Egyptian. Lecture, three hours; laboratory, two hours. Prerequisite: consent of the instructor. Grammar and texts.

2121A-2121B-2121C. Intermediate Ancient Egyptian. Three hours. Prerequisites: courses 120A-120B-120C. Readings in Ancient Egyptian literature. Mr. Callender

2123A. Coptic. Three hours. Prerequisite: consent of the instructor. An introduction to Coptic grammar and reading of Coptic texts. The quarters this course is offered vary from year to year. Check with department. Mr. Callender

2124. Middle Egyptian Technical Literature. Prerequisite: course 121C. Reading of Middle Egyptian Technical literature in hieroglyphic and demotic. Included are medical, veterinary, mathematical and astronomical texts. Mr. Callender

2130. 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 religious-political institutions such as divine kingship and pious foundations. Mr. Callender

2140A-2140B. Elementary Sumerian. Lecture, three hours. Prerequisites: Semitics 140A-140B. Elementary grammar and reading of royal inscription letters and administrative texts from the Ur III period. The Staff

2145. Sumerian Literary Texts. Lecture, three hours. Prerequisites: courses 140A and 140B or consent of instructor. Reading and interpretation of selected Sumerian literary texts. The Staff

2150A-2150B-2150C. Survey of Ancient Near Eastern Literatures in English. Lecture, three hours. Courses 150A and 150B and 150C may be taken independently for credit. 150A: Mesopotamia; 150B: Egypt; 150C: Syria and Palestine; Asia Minor, Persia. Mr. Bucellati, Mr. Callender, Mr. Segert

2160A-2160B-2160C. Introduction to Near Eastern Archaeology. Lecture, three hours. Terminology, geography, principles, strategy of research, bibliography and a general survey of Near Eastern archaeology. Ms. Carter, Mr. Frierman

2161A-2161B-2161C. Archaeology of Mesopotamia. Prerequisite: consent of the instructor. Survey of the main archaeological periods in Mesopotamia with special emphasis on the historic periods and with reference to neighboring cultural areas. May be taken independently for credit. Ms. Carter

162. Archaeology of Palestine. Lecture, three hours. A survey of the archaeology of Palestine and the Sinai Peninsula from the Paleolithic to the destruction of Jerusalem in 586 B.C. with emphasis on the geographic setting and relationships to the other cultures of the Near East. Mr. Frierman

2163. Archaeology of Iran. Lecture three hours. Prerequisites: None. A lecture course designed to introduce the student to Iranian archaeology from prehistoric through Achaemenid times. Lectures would cover geography and settlement patterns, early prehistory, Ancient Elam, the Iranian Plateau in the 1st millennium B.C., and the rise of the Achaemenid Empire. Ms. Carter

164A-164B-164C. The Archaeology of the Historic Periods in Mesopotamia. Prerequisite: History 140A-140B. Ancient Near East 161A-161C or consent of the instructor. Survey of the main archaeological periods in Mesopotamia with special emphasis on the historic periods and with reference to neighboring cultural areas. May be taken independently for credit.

4170. Introduction to Biblical Studies. Lecture, two hours. 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. Knowledge of original languages not required. Mr. Segert

4171. Old Testament: Hebrew and Septuagint Texts. Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C and Greek 1, 2, or consent of the instructor. Study of the Hebrew original and of the Greek version of the Old Testament books. Mr. Segert


199. Special Studies in the Ancient Near East. (1 to 2 courses) Prerequisite: consent of the instructor. The Staff

Graduate Courses

54401-54402. Late Egyptian. Formerly numbered 122A-122B. Prerequisites: courses 121A-121B-121C and consent of the instructor. Late Egyptian grammar and reading of both hieroglyphic and hieratic texts. The quarters in which this course is offered vary from year to year. Check with department. May be repeated for credit.

5211A-5211B. Texts of the Greco-Roman Period. Prerequisite: course 121C. Introduction to the grammar and orthography of hieroglyphic texts from Greco-Roman temples. Text readings and translation of various textual types.

5221A-5221B. Demotic. Prerequisite: course 121C. Introduction to the grammar and orthography of hieroglyphic texts from Greco-Roman temples. Reading of texts from various genres.

5240A-5240B-5240C. Seminar in Sumerian Language and Literature. Lecture, two hours. Prerequisites: consent of instructor. Readings of texts from various periods and genres, and selected problems in linguistic or stylistic analysis and literary history.

250. Seminar in Ancient Mesopotamia. Prerequisite: consent of the instructor. Selected topics on the political, social and intellectual history of ancient Mesopotamia. May be repeated for credit.

250X. Seminar in Ancient Mesopotamia. (1 course) Prerequisite: consent of instructor. Selected topics on the political, social and intellectual history of ancient Mesopotamia. May be repeated for credit. Ancient Near East 250X is a one unit course for students who participate regularly in class meetings without the homework required of students in the regular course, Ancient Near East 250.

260. Seminar in Ancient Near Eastern Archaeology. Lecture, two hours. Prerequisite: consent of the instructor. May be repeated for credit.

261. Practical Field Archaeology. (1 to 2 courses) Two hours. Prerequisite: consent of the instructor. Participating in archaeological excavations or other archaeological research in the Near East under supervision of the staff. May be repeated.

4170. Introduction to Islam. 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

5211A-5211B-5211C. Spoken Arabic. Lecture, three hours; laboratory, three hours. Prerequisites: courses 102A-102B-102C. Introduction to one Arabic dialect with some comparison of the other dialects. May be repeated for credit with consent of instructor.

5213A-5213B-5213C. Spoken Iraqi Arabic. Three hours. Prerequisites: courses 102A-102B-102C. Introduction to the contemporary Arabic dialect of Iraq. Phonology, morphology and syntax will be presented with emphasis on oral practice.

5221A-5221B-5221C. Spoken Moroccan Arabic. Lecture, three hours; laboratory, one hour. Introduction to the Spoken Arabic dialect of Morocco. Phonology, morphology and syntax will be presented. Emphasis will be on developing oral skills. Mr. Penchoen

5230A-5230B-5230C. Classical Arabic Texts. Lecture, three hours. Prerequisites: courses 102A-102B-102C. Reading and interpretation of texts from classical Arabic literature: Koran, historiography, geography and poetry.

5232A-5232B-5232C. Philosophical Texts. Three hours. Prerequisites: courses 102A-102B-102C or consent of the instructor. A study of excerpts from the major works of medieval Arab philosophy.

5240A-5240B-5240C. Modern Arabic Texts. Lecture, three hours. Prerequisites: courses 102A-102B-102C. Readings and interpretation of modern Arabic texts. Miss Audebert
Graduate Courses

*2520A - 2520B - 2520C. 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.

*2510A - 2510B. Survey of Arabic Literature in English. Lecture, three hours. Knowledge of Arabic is not required. Courses 150A and 150B may be taken independently for credit. Mr. Bonebakker

199. Special Studies in Arabic. (4 to 2 courses) Prerequisite: consent of the instructor. The Staff

Upper Division Courses

*12110A - 12110B - 12110C. Elementary Berber. Lecture, three hours; laboratory, two hours. Development of oral proficiency and analysis of basic grammatical structure. Mr. Penchoen

*12110D - 12110E - 12110F. Advanced Berber. Prerequisites: courses 101A-101B-101C or consent of the instructor. Advanced study of Berber. Regional and stylistic variants in folk literature. Mr. Penchoen

12111A - 12111B - 12111C. Elementary Georgian. Three hours. Prerequisite: consent of the instructor. Script, grammar, simple reading in this main Caucasian language. Mr. Sanjian

119. Special Studies in Caucasian Languages. (4 to 2 courses) Prerequisite: consent of the instructor. Study based on the requirements of the individual student. Mr. Penchoen

Caucasian Languages

*11111A - 11111B - 11111C. Elementary Georgian. Three hours. Prerequisite: consent of the instructor. Script, grammar, simple reading in this main Caucasian language. Mr. Sanjian

119. Special Studies in Caucasian Languages. (4 to 2 courses) Prerequisite: consent of the instructor. The Staff

Hebrew

Lower Division Courses

*1211A - 1211B - 1211C. Elementary Hebrew. Lecture, three hours; laboratory, two hours. Structural principles of grammar. Students who have previous knowledge of reading and some vocabulary are advised to take courses 10A-10B-10C. Students with credit for 10A will not receive credit for 10B or 1C. Students with credit for 10B will not receive credit for 10A. Students with credit for 10B or 1C will not receive credit for 10A. The Staff

*1210A - 1210B - 1210C. Accelerated Elementary Hebrew. Open to students who wish to cover the equivalent of two years college Hebrew in one academic year; for students who have previously studied the rudiments of Hebrew. Students with credit for Hebrew 1A will not receive credit for 10A. Students with credit for 1B and/or 1C will not receive credit for 10B.

Upper Division Courses

*12102A - 12102B. Intermediate Hebrew. Lecture five hours. Prerequisites: courses 1A-1B-1C or the equivalent. Amplification of grammar; reading of vocalized texts from modern, Biblical, and Medieval/Rabbinic literature. Section I for students with strong grammatical background. Section II for students with strong conversational background. The two sections should be equal in both language skills by the end of the Winter Quarter. Mr. Sabar

*12103A - 12103B - 12103C. Advanced Hebrew. Five hours. Prerequisites: courses 102A-102B-102C or the equivalent. Reading of unvocalized texts, primarily modern literature. Mr. Hakak
1210. Biblical Texts. Three hours. Prerequisites: courses 102A-102B-102C or the 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 the instructor. Readings in Mishnah, Talmud, and Midrash. May be repeated for credit. Mr. Davidson

135. Medieval Hebrew Texts. Lecture, three hours. Prerequisites: Hebrew 103A-103B-103C or consent of instructor. Readings in Medieval Hebrew Prose and Poetry. May be repeated for credit up to four times. Mr. Davidson

1540. Modern Hebrew Poetry and Prose. Lecture, three hours. Prerequisites: 103A, 103B, 103C, and consent of the instructor. A study of the major Hebrew writers of the past one hundred years: prose-Mendele, Ahad Ha’am, Agnon, Yizhar; poetry-Bialik, Tchernichovsky, Greenberg, Sholomsk, Alterman, Amihai. May be repeated for credit. Mr. Hakak

1516. The Hebrew Essay. Three hours. Prerequisites: courses 103A-103B-103C or consent of the instructor. The Hebrew essay from its rise in Europe in the late eighteenth century to the contemporary Israeli essay; the literary, political, philosophical, and scholarly essay will be studied. May be repeated for credit. Mr. Hakak

15190A-1590B. Survey of Hebrew Grammar. Three hours. Prerequisites: courses 102A-102B-102C or consent of the instructor. Descriptive and comparative study of the Hebrew phonology and morphology. Mr. Sabar

199. Special Studies in Hebrew. (2 to 2 courses) Prerequisite: consent of the instructor. The Staff

Graduate Courses

2210. History of the Hebrew Language. Prerequisites: courses 103A-103B-103C or consent of the 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

2230. Seminar in Medieval Hebrew Literature. Three hours. May be repeated for credit. Mr. Davidson

2231. Texts in Judaeo-Arabic. Prerequisites: a reading knowledge of Hebrew and Arabic. Reading of Philosophic Texts in Judaeo-Arabic. Mr. Davidson

2241. 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

2242. Studies in Modern Hebrew Poetry. Studies in specific problems and trends in Hebrew poetry of the last two centuries. Mr. Band

Individual Study and Research

596. Directed Individual Study. (2 to 2 courses) The Staff

597. Examination Preparation. (2 to 2 courses) The Staff

599. Dissertation Research and Preparation. (2 to 2 courses) The Staff

Related Courses in Another Department


Lower Division Courses

10A-10B-10C. Persian Conversation. (2 courses each) Three hours. Prerequisite: consent of the instructor. Systematic and structured conversation Persian. The Staff

Upper Division Courses

2201A-101B-101C. Elementary Persian. Lecture, four hours; laboratory, two hours. The Staff

2202A-102B-102C. Intermediate Persian. Lecture, three hours; laboratory, three hours. Prerequisites: courses 101A-101B-101C or the equivalent. The Staff

2203A-103B-103C. Advanced Persian. Lecture, three hours. Prerequisites: 102A-102B-102C or the equivalent. Mr. Banani

510. Contemporary Persian Belle Lettres. Three hours. Prerequisites: courses 103A-103B-103C or equivalent and consent of the instructor. A study of the major Persian poets and prose writers of the twentieth century: proezr Jamalzadeh, Hedayat, Chubuk, Al Ahmad, Sadi, Golestan; poetry Nima, Shamsu, Farrokhzad, Akhavan. Mr. Banani

511. Contemporary Persian Analytical Prose. Three hours. Prerequisites: courses 102A-102B-102C or equivalent and consent of the 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. Three hours. Knowledge of Persian not required. Courses 150A and 150B may be taken independently for credit. Mr. Banani

1509. Civilization of Pre-Islamic Iran. (Formerly Indo-European Studies 169.) A survey of Iranian culture from the beginnings through the Sassanian period. Mr. Schmidt

1510. Religion in Ancient Iran. Lecture, four hours. History of religion in Iran from the beginnings to the Mohammedan conquest; Indo-Iranian background, Zoroastranism, Manichaicism, Mazdakism. Mr. Band


159. Special Studies in Iranian. (2 to 2 courses) Prerequisite: consent of the instructor. The Staff

Graduate Courses

2210A-210B. The History of the Persian Language. Lecture, three hours. Prerequisite: consent of the instructor. Survey of the development of the new Persian language against the background of Middle and Old Persian. Mr. Rodrgilj

2211A-211B. Modern Iranian Diwect. Four hours. Prerequisites: Linguistics 100 or equivalent and consent of the instructor. A survey of the Northwestern and Southwestern Iranian languages, and their interaction with the non-Iranian languages of Iran. Discussion includes historical development, linguistic affinities and modern distribution. Material gathered in the field will supplement lectures. May be repeated for credit with the consent of the instructor. Mr. Band

2220A-220B. Classical Persian Texts. Three hours. Prerequisites: courses 103A-103B-103C or consent of the instructor. Study of selected classical Persian texts. May be taken independently for credit. Mr. Banani

9211. Rumi the Mystic Poet of Islam. Three hours. Prerequisites: course 220A or 220B and equivalent and consent of the instructor. A study of the life and works of Rumi in the context of interaction of Sufism and poetic creativity. Mr. Banani

M222A-M222B. Vedic. (Formerly numbered Indo-European Studies 222A-222B and same as Oriental Languages M222A-M222B) Four hours. Prerequisites: A knowledge of Sanskrit equivalent to Oriental Languages 162, and consent of the instructor. Characteristics of the Vedic dialect and readings in the Rig-Vedic hymns. M222B only may be repeated for credit.

7230A-7230B. Old Iranian. (Formerly numbered Indo-European Studies 230A-230B.) Four hours. Prerequisite: consent of the instructor. Studies in the grammars and texts of Old Persian and Avestan. Comparative considerations 230B only may be repeated for credit. Mr. Schmidt

7231A-231B. Middle Iranian. (Formerly numbered Indo-European Studies 231A-231B.) Four hours. Prerequisite: consent of the instructor. Studies in the grammars and the texts of such Middle Iranian languages as best serve the students' needs e.g., Pahlavi, Sogdian, Sakalni. 231B only may be repeated for credit. Mr. Schmidt

2350. Seminar in Classical Persian Literature. Three hours. Prerequisites: courses 103A-103B-103C and Iranian 199 or consent of the instructor. May be repeated two times for credit. Mr. Band

5251. Seminar in Contemporary Persian Literature. Three hours. prerequisites: course 140 or equivalent and consent of the instructor. Studies in specific problems and trends in Persian poetry and prose in the twentieth century. Mr. Banani

Individual Study and Research

596. Directed Individual Study. (2 to 2 courses) The Staff

597. Examination Preparation. (2 to 2 courses) The Staff

599. Dissertation Research and Preparation. (2 to 2 courses) The Staff

Related Courses in Other Departments


Islamics

Individual Study and Research

596. Directed Individual Study. (2 to 2 courses) The Staff

597. Examination Preparation. (2 to 2 courses) The Staff

598. Thesis Research and Preparation. (2 to 2 courses) The Staff

599. Dissertation Research and Preparation. (2 to 2 courses) The Staff

Related Courses in Another Department

Jewish Studies

Upper Division Courses

110. Social, Cultural and Religious Institutions of the Jews. This course will examine aspects of Jewish culture that are not treated in literature or history courses. The character and development of subjects such as the following will be considered: Jewish communal institutions; trades and occupations; contact with non-Jews; family institutions; educational institutions; folk beliefs and attitudes. The Staff

1140A-140B. American Jewish History. Lecture, three hours. An examination of the social and cultural development of the American Jewish community from its inception to the present, with emphasis upon the integration of successive immigrants and the development of institutions. 140A covers from 1654 to 1914; 140B covers from 1914 to the present. Ms. Lipstadt

1141. Modern Anti-Semitism. Lecture, three hours. An examination of modern anti-Semitism from the 18th century to the present; a comparison of modern racist ideologies with pre-modern theories; cases, e.g. the Dreyfus affair, the Balfour Trail, the Holocaust; Jewish reactions to these phenomena. Ms. Lipstadt

1142. The History and Institutions of the State of Israel. Lecture, three hours. A study of the social and cultural development of the State of Israel from its pre-state institutional structures to the present with emphasis upon major trends, personalities, and ideologies, and the state's position in the wider framework of modern Jewish history. Ms. Lipstadt

1250A-150B. Hebrew Literature in English. Lecture, three hours. 150A and 150B may be taken independently for credit. 150A: Biblical and Apocryphal literature. 150B: Rabbinic and Medieval literature. Mr. Band, Mr. Davidson

1515A-151B. Modern Jewish Literature in English. Lecture, three hours. Jewish Studies 151 of Diaspora literature, Jewish Studies 151B-Israeli literature. Both courses may be taken independently for credit. Mr. Band

190. Undergraduate Seminar in Jewish Studies. This course will deal with a single topic in depth with the object of encouraging and guiding students' research in the area of Jewish Studies. Literary, cultural and historical subjects will be taken up in successive years, including: midrash, messianic, medieval communal institutions; relations of Jews to non-Jews in the late middle ages. The Staff

199. Special Studies (Jewish Studies). (1/2 to 2 courses) Prerequisite: Jewish Studies majors only. The Staff

Near Eastern Languages

Upper Division Course

198. Special Studies in Near Eastern Languages. (1/2 to 2 courses) Prerequisite: consent of the instructor. The Staff

Graduate Courses

200. Bibliography and Method of Near Eastern Languages and Literatures. Two hours. Prerequisite: consent of the instructor. The Staff

210. Survey of Afro-Asiatic Languages. Lecture, three hours. Prerequisite: consent of the 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. This course is equivalent to Linguistics 225. The Staff

25241. Folklore and Mythology of the Near East. (Same as Folklore M241.) Prerequisite: Folklore 101 or the equivalent. The Staff

2590. Seminar in Paleography. Three hours. To provide the students with the ability to cope with varieties of manuscripts. The Staff

501. Near Eastern Languages Cooperative Program. (1/2 to 2 courses) Prerequisite: Approval of UCLA Graduate Advisor and Graduate Dean. Approval of host campus Instructor, Department Chairperson and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U. The Staff

596. Directed Individual Study. (1/2 to 2 courses) The Staff

597. Examination Preparation. (1/2 to 2 courses) The Staff

599. Dissertation Research and Preparation. (1/2 to 2 courses) The Staff

Semitics

Upper Division Courses

1201A-101B-101C. Elementary Amharic (Modern Ethiopic). Lecture, three hours. Elements of Amharic, and national language of Ethiopia; grammar and reading of texts. The Staff

102A-102B-102C. Advanced Amharic (Modern Ethiopic). Lecture, three hours. Prerequisites: courses 101A-101B-101C or consent of the instructor. The Staff

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 the instructor. Grammar of Biblical Aramaic and reading of texts. Mr. Segert

1340A-140B. Elementary Akkadian. Lecture, three hours. Elementary grammar and reading of texts in standard Babylonian. Mr. Buccellati

1341. Advanced Akkadian. Three hours. Prerequisite: consent of the instructor. Old Babylonian syntax; reading of basic Old Babylonian texts. Mr. Buccellati

1342. Akkadian Literary Texts. Three hours. Prerequisite: consent of the instructor. Selected readings from Akkadian myths and epics, with an introduction to the historical tradition of the works and their literary structure. Mr. Buccellati

140A-140B. Comparative Study of the Ethiopic, Akkadian, and Aramaic. Mr. Leslau

1420X. Seminar in Akkadian Language. Two hours. Prerequisite: consent of instructor. Readings of texts from various Akkadian literary genres; selected problems in the linguistic analysis of Akkadian dialects. May be repeated for credit. Semitics 240X is a one unit course for students who participate regularly in class meetings without producing the homework required of students in the regular course, Semitics 240. Mr. Buccellati

240A-240B-250C. Seminar in Comparative Semitics. Two hours. Mr. Buccellati

240X. 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. May be repeated for credit. Semitics 240X is a one unit course for students who participate regularly in class meetings without producing the homework required of students in the regular course, Semitics 241. Mr. Buccellati

596. Directed Individual Study. (1/2 to 2 courses) The Staff

597. Examination Preparation. (1/2 to 2 courses) The Staff

599. Dissertation Research and Preparation. (1/2 to 2 courses) The Staff

Turkic Languages

Upper Division Courses

1201A-101B. Elementary Turkish. Five hours. Grammar, reading, conversation and elementary composition drills. Mr. West

1202A-102B. Intermediate Turkish. Five hours. Prerequisites: courses 101A-101B or the equivalent. Continuing study of grammar, reading, conversation and composition drills. Mr. West

1301A-101B. Advanced Turkish. Five hours. Prerequisites: courses 101A-101B or the equivalent. Reading in modern literature and social science texts; conversation and composition. Mr. West

1312A-112B-112C. Uzbek. Three hours. Prerequisite: Turkic 102A or consent of the instructor. Grammar, composition drills, reading in literature and folkloric texts. Mr. Bodrogligeti

1314A-114B-114C. Bashkir. Three hours. Prerequisites: Turkic 102A or consent of the instructor. Grammar, reading of literary and folkloric texts. Mr. Bodrogligeti

1360A-160B. Cultural History of the Turcs. Lecture, three hours. Prerequisites: none. A survey of

NOTE: For key to symbols, see page 74
the cultural history of the Turks, as seen primarily through their literature, from their early history to the present.

Mr. West

219OA-190B-180C. Introduction to Turkic Studies. Three hours. Prerequisite: consent of the instructor. Obligatory for everyone in the Turkish program. Introduction to Turkish Philology and an ethnic and cultural survey of the Turkic people. Mr. Bodrogligeti

199. Special Studies in Turkic Languages. (4 to 2 courses) Prerequisite: consent of the instructor. The Staff

Graduate Courses

210A-210B-210C. Ottoman. Lecture, three hours. Prerequisites: 101A-101B-101C or 112A-112B-112C or 114A-114B-114C or consent of the instructor. Introduction to Ottoman descriptive grammar, Arabic and Persian elements in grammar and vocabulary. Reading and composition drills. Mr. West

221. Ottoman Diplomats. Three hours. Prerequisites: courses 210A-210B-210C or the equivalent. Organization and contents of the Ottoman archives; reading and discussion of documents and registers. Introduction to the use of Ottoman archive materials as a source for historical research. Mr. Shaw

220A-220B-220C. Chagatay. Lecture, three hours. Prerequisites: Turkish 101A-101B-101C or 112A-112B-112C or 114A-114B-114C or consent of the instructor. Introduction to Chagatay: descriptive grammar, Arabic, Persian and Tujik elements in grammar and vocabulary. Reading and composition drills. Mr. Bodrogligeti

225A-225B-225C. Old Turkic: Turk and Uygur. Lecture, three hours. Prerequisites: Turkish 190A-190B-190C and consent of the instructor. Textual and linguistic analysis of Turkish and Old Uygur documents, inscriptions, manuscrits and historical literary works. Given in alternate years; to be given 1978-1979. Mr. Bodrogligeti

230A-230B-230C. A Historical and Comparative Survey of the Turkish Languages. Three hours. Prerequisites: Turkish 190A-190B-190C. Extinct and living Turkish languages. The history of Turkic: developments in the phonemic, grammatical and lexical systems from the 8th to the 20th centuries. Structural analysis of the Turkish languages on a comparative basis. Mr. Bodrogligeti

235A-235B. Middle Turkish: Karakhanid, Khwarazmian, Mamlukkipchak and Old Anatolian. Lecture, three hours. Prerequisites: Turkish 190A-190B-190C and consent of the instructor. A survey of: Middle-Turkish documents. Textual and linguistic analysis of Middle-Turkish texts from various literary genres. Given in alternate years; to be given 1978-1979. Mr. Bodrogligeti

230A-230B-230C. Islamic Texts in Ottoman. Three hours. Prerequisites: Turkish 210A-210B-210C or consent of the instructor. A philological and linguistic survey of the basic Islamic source material written in the Ottoman literary language. Reading and discussion of Ottoman texts on Islamic: religious, legal, literary, scientific function. Mr. Bodrogligeti

250A-250B-250C. Islamic Texts in Chagatay. Three hours. Prerequisites: Turkish 220A-220B-220C or consent of the instructor. A philological and linguistic survey of the basic Islamic source material written in the Chagatay literary language. Reading and discussion of Chagatay Islamic topics. Mr. Bodrogligeti

1280A-220B. Seminar in Modern Turkish Literature. Seminar, two hours. Prerequisites: Turkish 102B or the equivalent and consent of the instructor. Specific issues and trends in the development of Turkish literature from the middle of the 19th century to the present. Mr. West

250A-250B. Seminar in Classical Turkic Literatures: Ottoman, Chagatay and Azeri. Lecture, two hours. Prerequisites: Turkish 210 and/or 220 and consent of the instructor. Survey of the Islamic literatures of the Turks in the Classical period. Readings of Ottoman, Chagatay and Azeri texts from various literary genres. Discussion of stylistic, prosodic and linguistic characteristics. Mr. Bodrogligeti

Individual Study and Research

596. Directed Individual Study. (4 to 2 courses) The Staff

597. Examination Preparation. (4 to 2 courses) The Staff

599. Dissertation Research and Preparation. (4 to 2 courses) The Staff

Course in Another Department

History 201A. History of the Eurasian Nomadic Empires.

Urdu

Upper Division Courses

101A-101B-101C. Elementary Urdu. Three hours. Prerequisite: consent of the instructor. Elements of Urdu, the language of Pakistan.

119. Special Studies in Urdu. Prerequisite: consent of the instructor.

Related Courses in Another Department


NEUROSCIENCE (INTERDEPARTMENTAL)

An interdisciplinary program of graduate training leading to the Ph.D. in Neuroscience is offered, utilizing facilities, resources, and activities of the Brain Research Institute and administered by an interdepartmental degree committee.

Applications must satisfy minimum requirements for admission to the Graduate Division. See Admission to Graduate Status. The program is designed particularly for students from the health and life sciences, but applications are encouraged from prospective trainees from the physical sciences and engineering as well. Recommended preparation includes mathematics through calculus, and at least one year each of general chemistry, organic chemistry, physics, and basic biology. The Graduate Record Examination or Medical College Admission Test is required. All students are required to complete a core curriculum designed to provide basic knowledge of the anatomy, physiology, and chemistry of neural function. Thereafter, the student may pursue an educational experience through any of the nine subdisciplines: neuroanatomy, neurochemistry, neurophysiology, behavior, neurocybernetics and communications, neuroendocrinology, neuropharmacology, neuroepistemology and immunology.

Both the core and in-depth curricula include major commitments to appropriate courses listed by departments, in addition to offerings shown below. Written and oral qualifying examinations normally are taken as the formal instruction period approaches completion.

Prospective applicants may inquire concerning the availability of this curriculum by consulting the Program Coordinator, 73-375 Brain Research Institute, Center for the Health Sciences.

Graduate Courses

200A-200B-200C. Classical Concepts in the Neurosciences. (4 course each) Presents information concerning neurological and psychiatric disorders for students from basic science backgrounds.

Mr. Walter

M201A-201B-201C. The Functional Organization of Behavior. (4 course each) Same as Psychiatry M201A-201B-201C. Prerequisites: consent of instructor; admission to M201B requires completion of M201A; admission to M201C requires completion of M201B. This course is divided into three quarters. The Fall Quarter focuses on species characteristic behaviors and features of behavioral organization primarily in nonhuman primates and man. The Winter Quarter focuses on behavioral organization and its relationship to survival and reproduction. Special emphasis is placed on the effect of changing ecological parameters and resulting alterations in behavioral organization. The Spring Quarter relates the behavior of the previous two quarters to psychopathological behavior in humans and nonhuman primates. Mr. McGuire

M204. Structure and Function of the Limbic System. (4 course) Same as Neurology M204). Prerequisite: consent of instructor. Current knowledge of the functions of the limbic system and its relationship to behavioral abnormalities as revealed by surveying studies of its development, anatomical, intrinsic synaptic organization, synaptic chemistry, afferent and efferent circuits and dysfunctions in memory and cognition associated with systemic function. The pathophysiology of limbic epilepsy will be related to normal limbic system structure and function. Mr. Babb

205. Brain-Behavioral Strategies for the Neurosciences. (4 course) Prerequisite: consent of instructor. Emphasis on the design, application, and analysis of behavioral strategies and the use of behavioral methods to study central nervous system function. Course is intended to provide the student with an understanding of basic behavioral and physiological concepts related to brain function. Mr. McGuire

M206A-206B. Neurosciences: The Introductory Course. (4 course each) (Same as Anatomy M206A-206B.) Two hours of lecture and two lab per week in the winter quarter; five hours of lecture and two lab per week in the spring quarter. Prerequisite: a course (or equivalent) in basic and/or general physical psychology such as Biology 171 or Physiology 101 or consent of instructor. This course is offered on an In Progress basis, which requires students to complete the full two-quarter sequence by the end of which time a grade is given for all quarters of work. Introductory course in the basic principles of the nervous system for graduate students as a pre- requisite to more specialized and advanced approaches to neuroanatomy (Winter Quarter), neurophysiology and the brain mechanisms for behavior (Spring Quarter) will be stressed.

Mr. Scheibel and the Staff

233. Seminar in Neuroscience. (4 course) Topics of current importance will be presented for discussion. Subject matter will be announced. The Staff

254. Interdisciplinary Research Seminar. (4 course) Lectures and discussions concern many different disciplinary approaches to knowledge of brain function. This course will broaden the experience of students studying in different fields other than that of the lecturer and offers new information in depth from students in fields closely related to the subject discussed.

Mr. Scheibel and the Staff

256A-256B-256C. Survey of the Basic Neurological Sciences. (4 course each) Summary information concerning methodologies utilized in different research approaches to brain study, e.g., neurophysiology, neuroendocrinology, brain structural, behavior, neurochemistry, and neuraprpharmacology, and others and brief review of present state of knowledge available from each. For students with interest in interdisciplinary aspects of brain research.

Mr. Steinman

259A-259B-259C. Neurophysiology of Behavior: The Fetus, Newborn, and Infant. (4 course each)
An integrated review of neuroanatomy, neurophysiology, and behavioral development of human and animal fetuses and infants. Behavior will be correlated with the development of the brain during this period of rapid change in both.

Mr. Parmelee

M260. Fundamental Concepts of Neuroendocrinology. (Same as Anatomy M260.) Two hours of lecture and two hours of discussion per week in the winter quarter of odd-numbered calendar years. Prequisites: Biochemistry 101C. Anatomy 206A-206B, or consent of instructor. Basic concepts of neuroendocrine integration including analysis of the current literature and research techniques.

Mr. Gorski

596. Directed Individual Study or Research. (1/2 to 3 courses) Prerequisite: consent of instructor. Mr. Edudson

597. Preparation for the Doctoral Qualifying Examination. (1 to 3 courses) Prerequisite: consent of instructor. Mr. Edudson

599. Dissertation Research for Ph.D. Candidates. (1 to 3 courses) For students requiring special instruction or time to work on dissertation. Mr. Edudson

NURSING (Office, 12-138 Center for the Health Sciences)

Harriett C. Moedl, R.N., M.A., Professor of Nursing
Mary E. Reker, R.N., M.P.N., Ed. Professor of Nursing
Maria W. Seraydarian, Ph.D., Professor of Nursing
Donna L. Vredevoe, Ph.D., Professor of Nursing
Lulu Weil Hasenfeld, R.N., M.P.H., Sc.D., Emeritus Professor of Nursing
Dorothy E. Johnson, R.N., M.P.H., Emeritus Professor of Nursing
Agnes A. O'Leary, R.N., M.P.H., Emeritus Professor of Nursing
Pamela J. Bends, R.N., Ph.D., Associate Professor of Nursing
Beatrice M. Dambach, R.N., D.N.Sc., Associate Professor of Nursing
Phyllis A. Putman, R.N., Ph.D., Associate Professor of Nursing
Sharon J. Reeder, R.N., Ph.D., Associate Professor of Nursing
Sumiko Fujiki, R.N., Ph.D., Visiting Associate Professor of Nursing
Luz Porter, R.N., Ph.D., Visiting Associate Professor of Nursing
Betty L. Chang, R.N., D.N.Sc., Assistant Professor of Nursing
Barbara A. Clemente, R.N., D.N.Sc., Assistant Professor of Nursing
Loucine M. Hackabaw, R.N., Ph.D., Assistant Professor of Nursing
Maryalice Jordan-Marsh, R.N., Ph.D., Assistant Professor of Nursing
Anarita Derranian, R.N., M.N., Assistant Professor of Nursing
Maire L. Friel, R.N., M.S., Assistant Professor of Clinical Nursing
Robert J. Gerds, R.N., M.S., Assistant Clinical Professor of Nursing
Joan Heath, R.N., M.S., Assistant Clinical Professor of Nursing
Doris Holan, R.N., M.N., Assistant Clinical Professor of Nursing
Jackline Knable, R.N., M.S., Assistant Clinical Professor of Nursing
Juanita Lee, R.N., M.N., Assistant Clinical Professor of Nursing
Brooke P. Randall, R.N., M.N., Assistant Clinical Professor of Nursing
Laurel Skilling, R.N., M.S., Assistant Clinical Professor of Nursing
Carolyn F. Troupe, R.N., M.A., Assistant Clinical Professor of Nursing
Gwen C. Uman, R.N., M.N., Assistant Clinical Professor of Nursing
Linda West, R.N., M.N., Assistant Clinical Professor of Nursing
Jean Kerr, R.N., Ph.D., Lecturer in Nursing
Ann D. Drake, R.N., M.S., Lecturer in Nursing
Charles K. Ferguson, Ed.D., Lecturer in Nursing
Joy Dan Graves, R.N., M.S., Lecturer in Nursing
Evelyn K. Gould, R.N., M.S., Lecturer in Nursing
Arlene Caulfield, R.N., M.S., Acting Assistant Professor of Nursing
Everett Seelye, R.N., M.N., Lecturer in Nursing

The School of Nursing accepts students of junior or higher standing and offers curricula leading to the degrees of Bachelor of Science and Master of Nursing.

Preparation for the Major

Completion of 21 courses (84 quarter units) of college work including the courses listed under the Premedurgical Curriculum in the College of Letters and Science.

The Major

At least 25 courses (100 quarter units) of required upper division nursing courses and elective courses designed to prepare university students for professional nursing responsibilities in the care of the patient and his family.

Admission to Graduate Status

Requirements for admission to graduate status are:
1) Graduation from a recognized college or university having an accredited baccalaureate nursing program equivalent to that of the School of Nursing, University of California, Los Angeles and satisfactory to the Graduate Division, Los Angeles.
2) Students who have completed other curricula (e.g., students who have graduated from a foreign institution) may be required to enroll in certain undergraduate nursing courses which generally will not be accepted in fulfillment of the requirements for advanced degrees. 2) Status as a registered nurse. Prior to entry into any clinical practice with evidence of status as a registered nurse in the State of California is mandatory. 3) An upper division statistics course, or a lower division statistics course with content equivalent to Public Health 100A must be completed prior to entrance into the School of Nursing. 4) Professional and academic competence in nursing attested through undergraduate nursing courses which generally may be required to enroll in certain upper division statistics course.

Seminars, autotutoral laboratory and clinical application.

Ms. Canfield

104A. Behavior of Man in Health and Illness. Lecture, four hours. An examination of the health-illness continuum from the framework of the human being. Content includes role theory, developmental theory, transcultural communication theory and other theories relevant to nursing practice.

Ms. Fujiki

104B. Behavior of Man in Health and Illness. Lecture, four hours. Prerequisites: courses 104A and 104B. Examination of the health-illness continuum from the framework of illness as a stressor and the search for appropriate response to such stress. Content includes anxiety, pain, cognitive disturbances, loss and other responses relevant to nursing practice.

Ms. Fujiki

104C. Behavior of Man in Health and Illness. Lecture, four hours. Prerequisites: courses 104A and 104B. Continuation of the examination of the health-illness continuum from the framework of illness as a stressor and the search for appropriate response to such stress. Content includes anxiety, pain, cognitive disturbances, loss and other responses relevant to nursing practice.

Ms. Fujiki

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 diad and in a small group. Ms. Canfield

120A. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical concepts related to the nursing care of the child and his family. Ms. Porter

120B. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical content related to the nursing care of the patient undergoing medical intervention.

Ms. Kerr

120C. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical content related to the patient undergoing surgical intervention.

Ms. Caine

120E. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical content related to the nursing care of individuals, groups or communities. Ms. Graves

120F. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical content related to the nursing care of the patient undergoing surgical intervention.
content will include pathophysiology, pharmacology and treatment modalities. Application of community health concepts to nursing care in public health agencies. Ms. Jordan-Marsh

M156. Health in Culture and Society. (Same as Anthropology M158.) Prerequisite: upper division standing. Examination of the theories and methods of medical anthropology in relation to cross-cultural health systems, role networks, attitude and belief systems of the participants. Emphasis placed upon interaction within health care systems. Ms. Brink

184. Evolution and Dynamics of the Nursing Profession. Lecture, four hours. A study of the evolution of nursing focusing on historical, ethical, moral, legal, and institutional ramifications of nursing practice. In addition, consideration will be given to the rights, obligations, societal, and institutional expectations of the professional nurse. Ms. Ver Steeg

188. Seminar in Physiology. (4 course) Discussion, two hours. Prerequisite: Physiology 105N or equivalent. Student presentation of selected topics in physiology based on recent monographs, review articles and original research papers. Topics selected each quarter designed to amplify and extend information presented in lectures. May be repeated for credit. Ms. Seraydarian

189. Human Sexuality. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. A case presentation and discussion of human sexuality, its joys and pleasures, pitfalls and problems. An interdisciplinary approach encompassing anatomic, physiologic, psychologic and social aspects of heterosexual and homosexual relationships; including development of gender identity, intercourse, pregnancy, abortion, contraception and venereal disease. Ms. Reeder

190A. Advanced Clinical Nursing. (1½ courses) Lecture, two hours; laboratory, two hours. Prerequisites: successful completion of courses 101, 104 series and 120 series. Beginning concentration in a clinical area of students choice. Ms. Caine and the Staff

190B. Advanced Clinical Nursing. (1½ courses) Lecture, three hours; laboratory, two hours. Prerequisites: successful completion of courses 101, 104 series, 120 series and 190A. Beginning concentration in a clinical area of students choice. Ms. Caine and the Staff

193. Introduction to Research. Lecture, four hours. An introduction to planning a research project based upon a simple question. Includes rules for definition of terms, alternative methods of writing purposes, selecting a sample, choosing a data collection instrument, planning for data analysis, protection of human rights, reading research reports, and writing a research proposal. Ms. Thomas, Ms. Vredevoe


196. Health Care Problems of Minority Group Members. Prerequisite: Sociology 1A or B. 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 cultural differences. Ms. Drice

199. Special Studies in Nursing. (4 courses) Prerequisites: senior standing and/or consent of the instructor. Individual study of a problem in the field of nursing. May be repeated for credit but only one unit may be applied toward the Bachelor of Science degree. Grading basis (passed/not passed or letter grade) is to be determined by the student and instructor.

The Staff

Graduate Courses

I. Theory and Research in Nursing

203. Theoretical Framework for Nursing Practice. Lecture, four hours. Comparative study of selected conceptual models of nursing and the recipient of nursing, with particular emphasis on the regulatory model, the adaptation model, the supplemental model, and the complementary model. Ms. Dierdarian

204. Research in Nursing. Lecture, four hours. Prerequisite: introductory statistics, course 193 or equivalent. Indepth examination of the research process relating to delineation and investigation of nursing problems. Emphasis on development and use of theoretical frameworks. A variety of methodologies and data analysis techniques are examined as they apply to the development of complex exploratory questions. Ms. Brink, Ms. Vredevoe

205A. Qualitative Research Methods in Nursing. Lecture, four hours. Prerequisite: course 204. Emphasis is placed upon nursing research designs utilizing the field method approach. Ethnomethodology, and inductive methods. Ms. Brink

205B. Quantitative Research Methods in Nursing. Lecture, four hours. Prerequisite: course 204. Emphasis is placed on nursing research designs requiring statistical analysis of data. Ms. Vredevoe

II. Selected Problems in Nursing Care

210. Respiratory Physiology and Applied to Nursing Care. Lecture, six hours; discussion, one hour; seminars. Prerequisite: upper division course in human physiology. An advanced treatment of the topic presented in lectures and seminars with emphasis on current research. Application of knowledge to nursing problems will be stressed. Ms. Seraydarian

211. Cardiovascular Physiology As It Relates to Nursing. Lecture, three hours; discussion, one hour; seminars. Prerequisite: upper division course in human physiology. An advanced treatment of the topic presented in lectures and seminars with emphasis on current research. Application of knowledge to nursing problems will be stressed. Ms. Seraydarian

212. Discontinuities in Family Health During the Reproductive Years. Lecture, two hours; discussion, one hour. An overview of selected problems with health connotations that are potentially disruptive to the family during their childbearing years. Selected problems are examined and pertinent variables affecting the family's definitional situation, their resources, strategies for coping, and utilization of professional services are explored and their relevance for nursing practice examined. Ms. Reeder

217. Selected Topics in Medical Anthropology. (Same as Anthropology M269N) Lecture, three hours. Prerequisite: M138 or consent of instructor. Any of the topics covered in upper division course, M158, will be selected each quarter, for intensive literature review and independent projects. The course may be repeated for credit. Ms. Brink

221. Theoretical Frameworks for Developmental Problems, Middle and Later Years. Lecture, four hours. Aspects of human development to understand 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 considered. Ms. Porter

222. The Concept of Grief and Loss. Lecture, three hours; laboratory, two to four hours. Prerequisite: enrollment in a clinical nursing course or concurrent. This course will deal with the concepts and theories associated with grief and loss, with 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. Ms. Vredevoe

223. Management of Developmental Problems, Early Years. Lecture, four hours. Study of selected human development theories, hypotheses, and concepts. Problems relevant to nursing are examined through the critique of pertinent literature. Ms. Porter

224. Problems in Patient Motivation. Lecture, four hours. The major purpose of this course will be an exploration of the phenomena which may occur when a person assumes the role of a sick patient. Ms. Vredevoe

225. Problems in Environmental Management. Lecture, four hours. The prevention and treatment of nursing problems related to conditions of the physical and social environment. Ms. Porter

234. Issues in Health Care. Prerequisite: consent of instructor. A comprehensive course dealing with prevention and health care and the roles of health team members as viewed by society and influenced by societal values. Selected health care issues will be debated by students utilizing an indepth literature review on the issue. Ms. Ver Steeg

250. Seminar: Nursing in Other Cultures. Lecture, four hours. Prerequisite: consent of instructor. Discussion of anthropological principles which affect nursing care in a particular cultural environment. Individual research projects based upon the medical problems found in such an environment and the projected nursing interventions relative to these findings. Ms. Brink

264. Seminar in Primary Ambulatory Care. (4 course) Sirinar, two hours. Prerequisite: to be taken concurrently with 402A and/or B, or consent of instructor. Discussion of the concepts of team practice, inter- and intra-professional relationships, legal issues, and the socioeconomic aspects of primary care. To be graded S/U only. Mr. Ver Steeg

III. Clinical Specialization

A. Nursing Assessment

401. Nursing Assessment and Intervention. Lecture, two hours; laboratory, four to eight hours. Prerequisite: course 203 or concurrent. Instruction and experience in the systematic assessment of patients for the identification of nursing problems. Discussion and evaluation of major modes of interventive practice. Ms. Dierdarian

402A-402B. Primary Diagnosis for Nurse Practitioners. Lecture, four hours; discussion, determination of diagnosis and practice. Prerequisite: satisfactory completion of anatomy and physiology pretest, consent of instructor. Collection, analysis, and reporting of data used by the nurse to gain-depth knowledge of group processes. Principles and practice in history-taking, physical examination, laboratory, and other diagnostic methodology. Pathology and pathophysiology are integrated in a systems approach. Ms. Holm

403. Physical Assessment for the Clinical Specialist. (1 to 1½ courses) Lecture; four hours; optional seminars, two hours. Prerequisite: consent of instructor—not open to Primary Ambulatory Care majors. An in-depth study of the basic techniques of history-taking and physical examination which are used by clinical specialists as part of the total nursing assessment process. Includes theoretical and practical instruction in physical assessment methodology. Optional seminars provide content pertinent to selected specialty areas. Ms. Holm

404. Comprehensive Group Theory. Lecture, two hours; laboratory, two hours. This 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, how to apply the above theory to any area of nursing, develop a beginning ability to function as both leader and
participate in the area of group dynamics and/or group therapy, and develop the ability to evaluate the effectiveness of group therapy. The Staff

405. Assessment in Psychiatric Nursing. Lecture, three hours; laboratory, two hours. A preparatory course for advanced clinical practice in mental health setting. The course content includes an overview of theories of personality, communication, psychopathology, development, and treatment. The focus of the course is an application of selected behavioral models and the assumption of the therapeutic process in mental health populations. The laboratory will involve group experience and the opportunity to observe and participate in the clinical work setting. The Staff

421A. Clinical Nursing of Children. Discussion, two hours; laboratory, up to 30 hours. Prerequisites: course 421B, consent of instructor. Refinement and extension of professional knowledge and skills in the practice of nursing of children. The Staff

421B. Advanced Clinical Nursing of Children. (2 courses) Discussion, two hours; laboratory, up to 30 hours. Prerequisites: course 421A, consent of instructor. To develop increased competence in managing total care of pediatric patients with emphasis on patients with a particular nursing problem, disease entity or age group. To attain skill in working collaboratively as a leader with other health personnel. The Staff

B. Clinical Pracita

421C. Clinical Specialization in Nursing of Children. (2 courses) Discussion, two hours; laboratory, up to 30 hours. Prerequisites: course 421B, consent of instructor. Refinement and extension of professional knowledge and skills in the practice of nursing of children. The Staff

422. Advanced Clinical Maternity Nursing. (2 courses) Discussion, two hours; laboratory, up to 30 hours. Prerequisites: consent of instructor, course 422A. Refinement and extension of knowledge and expertise in the field of maternity nursing. Caring for mothers and infants at risk or normal reproductive processes with problems. Emphasis on role of clinical environment in the adaptation of mother to the various settings within an organization structure. Ms. Reeder

422A. Advanced Clinical Maternity Nursing. (2 courses) Formerly numbered 470A.) Discussion, two hours; laboratory, up to 30 hours. Prerequisites: consent of instructor, course 422A. Refinement and extension of knowledge and expertise in the field of maternity nursing. Caring for mothers and infants at risk or normal reproductive processes with problems. Emphasis on role of clinical environment in the adaptation of mother to the various settings within an organization structure. Ms. Reeder

423A. Medical-Surgical Nursing. Lecture, two hours; laboratory, eight to ten hours. Prerequisites: one course in Selected Problems in Nursing Care. An advanced course in the theory and practice of the nursing care of adults (medical-surgical). The major emphasis is on the assessment and diagnosis of nursing problems within a conceptual framework for nursing practice. The assessment of human responses to changes in health status. Students select a specific patient population for concentration in the course. Ms. Chang

423B. Advanced Clinical Medical-Surgical Nursing. (2 courses) Discussion, two hours; laboratory, up to ten hours. Prerequisites: one course in Selected Problems in Nursing Care. An advanced course in the theory and practice of the nursing care of adults (medical-surgical). The major emphasis is on the assessment and diagnosis of nursing problems within a conceptual framework for nursing practice. The assessment of human responses to changes in health status. Students select a specific patient population for concentration in the course. Ms. Chang

424A. Clinical Psychiatric Nursing. Discussion, two hours; laboratory, up to 10 hours. Prerequisites: consent of instructor, course 423B. The refinement and extension of professional knowledge and skills in the practice of advanced psychiatric nursing. Ms. Chang

424B. Advanced Clinical Psychiatric Nursing. (2 courses) Discussion, three hours; laboratory, up to 20 hours. Prerequisites: consent of instructor, course 424A. Refinement and extension of knowledge and skills in clinical field of psychiatric nursing. Emphasis is placed upon learning and application of a variety of nursing intervention techniques. Ms. Dambacher, Ms. Thomas

424C. Clinical Specialization in Psychiatric Nursing. (2 courses) Discussion, two hours; laboratory, up to 20 hours. Prerequisites: consent of instructor, course 424B. The refinement and extension of professional knowledge and skills in the practice of advanced psychiatric nursing. Ms. Thomas

425A. Clinical Gerontological Nursing. Discussion, two hours; laboratory, up to 16 hours. Prerequisites: one course in Selected Problems in Nursing Care. Principles and practice of assessment of psychosocial variables in health problems of elderly. Emphasis placed on integrated understanding of multiple variable influences in total health. Ms. Putnam

425B. Advanced Clinical Gerontological Nursing. (2 courses) Discussion, two hours; laboratory, up to 30 hours. Prerequisites: consent of instructor. Refinement and extension of knowledge and skills of psychosocial nursing intervention in rehabilitation of the chronically ill aged. Ms. Putnam

425C. Clinical Specialization in Gerontological Nursing. (2 courses) Discussion, two hours; laboratory, up to 30 hours. Prerequisites: courses 425B, consent of instructor. Refinement and extension of knowledge and skills of psychosocial nursing intervention in rehabilitation of the chronically ill aged. Ms. Putnam

429A-429B. Preceptorship in Primary Ambulatory Care Nursing. (2 courses each) Lecture, three hours; discussion, three hours; laboratory, minimum of six hours. Prerequisites: courses 429A-429B. Consent of instructor. Advanced specialization in primary ambulatory care of a specific patient population. Emphasis is placed upon the refinement and extension of assessment, planning, and delivery of health care to the developmentally disabled in the community. Ms. Anderson

440A-440B. Clinical Specialization in Community Mental Health Consultation. Lecture, three hours; clinical, ten hours. Prerequisites: consent of instructor, course 424B, concurrent with 441A and 441B. Study and application of mental health consultation theory and practices relevant to community mental health nursing. The development of the nursing role in the interdisciplinary health team approach to mental health care and community concepts. Ms. Brown

441A-441B. Clinical Specialization in Community Organization. Lecture, three hours; clinical, ten hours. Prerequisites: consent of instructor, course 424B, concurrent with 440A and 440B. Theories and practices relevant to community development; mental health program planning; health advocacy; primary and secondary prevention of mental illness; and planned changes are stressed. This course is offered on an In Progress basis which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for all quarters of work. Ms. Brum

IV. Functional Preparation

Courses numbered in the 300 series are not applicable to University requirements. *Note: Courses numbered in the 300 series are not applicable to University requirements.

*700. Supervised Practice Teaching in Nursing. Lecture, two hours; laboratory, ten hours. Prerequisite: course 472. The application of specific teaching strategies and the principles of learning and instruction into actual supervised practice teaching situations. Ms. Huckabay

701. Conditions of Learning and Instruction in Nursing. Lecture, four hours; audio-visual instruction. A systematic study of theories of learning and instruction, and critical analysis of the relevant issues and patterns of nursing education. Focuses
ORIENTAL LANGUAGES

(Department Office, 222 Royce Hall)

Hartmut E. F. Schlarb, Ph.D., Professor of Indic Studies (Chairman of the Department).

Endo Atsuo, M. Litt., Ciko, Emeritus Professor of Oriental Languages.

Kereuth K. S. Chen, Ph.D., Emeritus Professor of Oriental Languages.

Koan Kao, B.A., Academician, Emeritus Professor of Oriental Languages.

Richard G. Rudolph, Ph.D., Emeritus Professor of Oriental Languages.

Ben Belu, Ph.D., Associate Professor of Oriental Languages.

Hung-choong Chou, Ph.D., Associate Professor of Oriental Languages.

Robert C. Epp, Ph.D., Associate Professor of Oriental Languages.

Shin-anae Wong, Ph.D., Associate Professor of Oriental Languages.

E. Perry Link, Jr., Ph.D., Assistant Professor of Oriental Languages.

Herbert E. Plutschow, Ph.D., Assistant Professor of Oriental Languages.

Richard E. Strassberg, Ph.D., Assistant Professor of Oriental Languages.

Assistant Professor of Oriental Languages.

Assistant Professor of Oriental Languages.

Y. C. Chu, M.A., Lecturer in Chinese.

Kuo-yu Pao (Ueisoken), M.A., M.S., Lecturer in Oriental Languages.

Hanzo-Peter Schmidt, Ph.D., Professor of Indo-Iranian Studies.

George Takahashi, M.A., Lecturer in Japanese.

Department undergraduate advisers: Kuo-yu Pao, Chinese; Robert Epp, Japanese; Shireen Wong, Chinese; Herbert Plutschow, Japanese.

Advising: At the beginning of each academic year all majors in the department should see the adviser concerning their program of studies. New students entering the department should consult immediately with the appropriate adviser concerning their proposed study program.

Aim: The Department of Oriental Languages aims to provide the general undergraduate student with an exposure to the cultural heritage of China and Japan. This is accomplished through courses in civilization, religion, archaeology and literature in translation. For those undergraduates who wish to major in Oriental Languages, the Department offers a program leading to the B.A. degree in Chinese or Japanese. This program 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. No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition.

Preparation for the Major

For the major in Chinese, courses 1A-1B, 1C, 11A-11C, 13A-13B, and 40A or 46; also History 9B and 9C. For the major in Japanese, courses 9A-9B, 9C, 19A-19B-19C, and 40B; also History 9B and 9C. Recommended for Chinese majors: course 13C; recommended for both majors: Anthropology 5C, 22 and English 2.

The Major

Required for the major in Chinese: Seven upper division language courses which must include:

- Two courses to be chosen from 121A, 121B, 121C, 122A, 122B, 124A, 124B, 124C.
- Two courses to be chosen from 133A, 133B, 151A, 152A, 152B, 163A, 163B, and 163C.
- Also: 140A, 140B or 140C, one course chosen from 170A, 170B, 170C, 171A, 171B, 171C, Art 1148 and either History 19A, 19B, 19C or 19D.

Required for the major in Japanese: Seven upper division courses chosen from 119A, 119B, 129, 134A, 134B, 137, 139, 142A, 142B, 153A, 153B, 157, 179A, 179B. The seven courses must include 119B, 129 and 134A or 134B or 153A or 153B. Also, 141A or 141B, one course chosen from 174, 184, 199 (at least 1/2 course), Art 114C and either History 19A, 19B, 19C, or 19D.

Recommended for both majors: English 100A, 100B, 100C, Geography 186 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.

Requirements for Admission to Graduate Study

Students seeking admission to graduate status in Oriental Languages must fulfill the requirements for the M.A. degree in addition to general University requirements, not only the minimum requirements for the undergraduate major but, in addition, a minimum of three courses in classical Chinese or Japanese at the upper division level. Students whose undergraduate preparation was not in the field of Oriental Languages will be admitted only if they can meet the departmental standards in linguistic competence and complete theiminimum department 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) recommendation of honors 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 attain a satisfactory score on the Test of English as a Second Language administered by the Educational Testing Service, and may be required to take English 106 (Advanced Composition for Foreign Students) and 109 (Introduction to Literature) before acceptance. Transfer students are required to present evidence of completion of one year of Japanese with a grade of B or better, and those majoring in Chinese will be required to present evidence of completion of one year of Japanese with a grade of B or better.

Comprehensive Examinations and the Research Paper: All students will take comprehensive examinations in the areas of Chinese or Japanese language and literature. Following the completion of the requirements for the M.A. degree 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 research paper will determine whether the student will be permitted to enter the Ph.D. program.

Requirements for the Ph.D. Degree

General Requirements: See Doctoral Degree.

Admission to the Doctoral Program: The M.A. degree in Oriental Languages is required for admission to the doctoral program. A student 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. A student admitted with an M.A. degree in a field other than Orient-
tional Languages must fulfill our course requirements for the M.A. degree. In either case, the student may be required to submit a brief research paper demonstrating his ability to conduct original research and his aptitude in communicating his findings.

Course Requirements: A minimum of five courses beyond the M.A. degree is required. In addition, students who major in field other than Chinese language and literature will present evidence of successful completion of three courses in modern Japanese at the intermediate level (19A-19B-19C) or higher; those whose major field of interest is Japanese language and literature will present evidence of successful completion of three courses in classical Chinese (13A-13B-13C) or higher. Those whose major field of interest is Buddhism must take five quarters of Solar Pali. A grade of B or better is required for all language courses.

Foreign Language Requirements: The student will demonstrate a reading knowledge of French and German by passing the Graduate School Foreign Language Test administered by the Educational Testing Service (minimum passing score: 500), or by successful completion of a level 5 course (with a grade of B or better). (With the approval 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.)

Guidance Committee: A guidance committee consisting of three members, two of whom will be from the student's major language area and one from the minor language area, will be appointed for all entering doctoral level students. The student will select his fields of examination with the approval of this committee.

The Language Examination: The student will take a language examination in his major language area well in advance of the written qualifying examinations. The examination will consist of translations into English to test the student's ability to render the language into English accurately and in an acceptable style.

Written Qualifying Examinations: The student will 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 fictional archaic inscriptions
   c. An examination in one of the following fields: Chinese 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 school 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 school 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. The student will take these written qualifying examinations after satisfying all language and course requirements. With the approval of the department, a student may repeat the examinations once only.

The Oral Qualifying Examination: The student must present an oral qualifying examination on the proposed dissertation topic and in appropriate related areas of study.

The Dissertation: The student will present a dissertation embodying the results of independent investigation. If the student changes his dissertation topic after being advanced to candidacy, he will be required to take written examinations in fields relevant to the new topic. Students who fail to meet the maximum time limit for the completion of the dissertation will be required to take the written qualifying examinations again.

A final oral defense of the dissertation will be optional at the discretion of the doctoral committee.

Lower Division Courses

1A-1B-1C. Elementary Modern Chinese. Lecture, five hours. Not open to students with previous training. Introduction to standard spoken Chinese and Chinese characters with emphasis on conversation. Mr. Chu, Mr. Pao

3A-3B-3C. Basic Cantonese. 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.

The Staff 9A-9B-9C. Elementary Modern Japanese. Lecture, five hours. Not open to students with previous training. Introduction to modern Japanese with attention to conversation, grammar and the written forms. Conversation drill to be based on material covered in class.

Mr. Takahashi
10A-10B-10C. Intermediate Spoken Chinese. (Course each) Prerequisite: course 9C. To be taken in conjunction with second year Chinese to enhance command of spoken Mandarin at the intermediate level. Mr. Chu

Mr. Chu, Mr. Pao

13A-13B-13C. Introduction to Chinese Literature. Lecture, three hours; laboratory, one hour. A continuation of 1A-1B-1C, with balanced instruction in reading, writing and conversation. Mr. Chu

Mr. Chu, Mr. Link

14A. Introduction to Kambun and other Literary Forms. Lecture, three hours. Prerequisite: course 13B. An introduction to the Heian period and non-canonical works of poetry, prose and drama of the Heian Period.

Mr. Link

15A-15B-15C. Intermediate Spoken Japanese. (Course each) Prerequisite: course 14A. Four courses limited; permission of the Department required; priority to be given Japanese majors.

The Staff

16A-16B-16C. Intermediate Modern Chinese. Lecture, three hours; laboratory, one hour. A continuation of 9A-9B-9C. Readings in modern Chinese with emphasis on comprehension and structural analysis.

Mr. Epp, Mr. Takahashi

40A. Chinese Civilization. No knowledge of Chinese required. A survey of the development of the outstanding aspects of Chinese culture from prehistoric to modern times. Mr. Chu


The Staff

46. Chinese Civilization in Modern Times. Prerequisite: no knowledge of Chinese required. A survey of developments in Chinese culture from the late 19th century to the present.

Mr. Link

Upper Division Courses

11A-11B. Intermediate Classical Chinese. Lecture, three hours; reading or discussion, one hour. Prerequisite: courses 11A-13B. Further readings in the classics.

Ms. Wong

11A-115B-115C. Advanced Spoken Japanese. (Course each) (Formerly numbered 115C). Prerequisite: course 19C. Enrollment limited; permission of the Department required; priority to be given Japanese majors.

The Staff


The Staff

121A-121B. Advanced Modern Chinese. Lecture, four hours. 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 the instructor. Readings and discussion of masterpieces of modern Chinese literature. (A) poetry and prose; (B) drama and fiction.

Mr. Link

124A-124B-124C. Readings in Modern Expository Chinese. Lecture, three hours. Prerequisite: course 121B or consent of the instructor.

Mr. Chu

134A. Introduction to Kawahata Yasumori. Lecture, three hours. Prerequisite: course 19C. Reading and analysis of the Nobel Laureate's short stories with particular emphasis on their emotional structure.

Mr. Epp

134B. Introduction to Mushakoji Sanetsu. (Formerly 1536). Lecture, three hours. Prerequisite: course 19C. Reading and discussion of Mushakoji's prose, fiction and poetry.

Mr. Epp

135. Buddhist Themes in Asian Literature. No knowledge of Asian languages required. A survey of selected works of Buddhist literature of India, China, Japan and Korea. Includes the lotus Sutra and non-canonical works of poetry, prose and drama containing Buddhist themes.

The Staff

137. Introduction to Kambun and other Literary Styles. Lecture, three hours. Prerequisite: course 119B or consent of the instructor. Introduction to Kambun, the Japanese literary rendering of Classical Chinese, and Sorobun, the epitaphial style.

Mr. Epp, Mr. Betu, Mr. Plutschow

139. Introduction to Buddhist Texts. Lecture, three hours. Prerequisite: course 13C, 121A or 119A. Studies in Buddhist terminology.

The Staff

140A-140B-140C. Chinese Literature in Translation. No knowledge of Chinese required. A survey of Chinese literature and collateral reading of representative works in English translation. (A) Poetry from earliest times to the 19th century; (B) Drama and fiction from the 13th century to the end of the Ch'ing period; (C) 20th-century poetry, drama, fiction.

Mr. Link, Ms. Wong

141A-141B. Japanese Literature in Translation. No knowledge of Japanese required. A survey of Japanese literature from the beginning to modern times emphasizing Chinese, Buddhist and Western influences: (A) Beginning to 1600; (B) 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
152A-152B. Readings in Classical Chinese Poetry. Prerequisites: The 152A or consent of the instructor. Discussion and collaborative reading of representative works selected on the basis of such critical concerns as thematic patterns, image clusters, genres, and the characteristics of major poets. Mr. Scharfe

153A. Kawabata’s Contemporaries. (Formerly 134B) Lecture, three hours. Prerequisite: course 119A, or 134A or 134B. Readings in the fiction and poetry of Ibusuke, Maruyama Kaoru, Ozaki Kanzo, Torii Sakei and Yokomitsu Riichi. Mr. Epp

153B. Introduction to Shiga Naoya. (Formerly 153A.) 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. 154A-154B. Mongolian. Lecture, three hours; laboratory, one hour. To be offered when requested by a sufficient number of students. Mr. Pao

160. Elementary Sanskrit. Introduction to script and grammar, with reading exercises and attention to the significance of Sanskrit for the understanding of the languages of South Asia. Mr. Schefle

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. In this course the entire Bhagavadgita or a comparable amount of other Sanskrit literature will be studied. Mr. Schefle

163A-163B-163C. Readings in Chinese Literary Texts. Lecture, three hours. Prerequisite: course 113B. (A and B) Literary texts. (C) Historical texts. The Staff

165. Readings in Sanskrit. Prerequisite: course 162 or equivalent. Extensive reading in such texts as best serve the students’ needs. The Staff

167. Introduction to Indic Philosophy. A survey of the main trends in Indian philosophy from ancient to modern times. Mr. Scharfe

170A-170B. Archaeology in Early and Modern China. (A) Introduction to Chinese archaeology: early Chinese study of their own past, types of artifacts, antiquarianism, and the beginnings of scientific archaeology in China before 1949. (B) 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. No language requirement. Not open to students who received credit for 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. The Staff

173. Chinese Buddhism. No language requirement. The introduction and development of Buddhism in China, interaction between Buddhism and Chinese culture, rise of the Chinese schools of Buddhism such as Pure Land and Zen, contributions to Chinese culture. The Staff

174. Japanese Buddhism. No language requirement. The development of Buddhism in Japan and its influence on Japanese culture with emphasis on the arts. The Staff

175. The Structure of the Japanese Language. Lecture, three hours; reading or discussion, one hour. Prerequisite: consent of the instructor. Phonology, morphology and syntax of Japanese. Mr. Takahashi

179A. Readings in Medieval Japanese Literature. Lecture, three hours. Prerequisite: course 129 or consent of the instructor. Readings and discussion in the prose, poetry and drama up to 1600. Mr. Befu

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. No language requirement. A general survey of indigenous Chinese thought from the Chow period to the Sung Dynasty. Taoist, Mo Chu, the Legalists, the study of the Classics, pseudo-scientific 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 sense of Chinese thought. The Staff

184. Introduction to Japanese Thought. No language requirement. A general survey of Japanese thought from the earliest records to the Tokugawa period with primary emphasis on indigenous elements. Deals with the religious ideas that shaped Shinto, the encounter of Shinto with Buddhism, the formation of "syntheses" such as Ryobu Shinto, the rise of pessimistic attitudes (maigo), philosophies of history and the growth of Japanese self-consciousness, the rise of new Shinto sects in the medieval period, Confucianism in the Tokugawa period and the "National Learning" movement. The Staff

189. Special Studies in Oriental Languages. (1/2 to 1 course) Prerequisite: senior standing in the Department or advanced reading knowledge of Chinese or Japanese, and consent of the instructor. Required of incoming senior majors transferred from other institutions. Special individual study. May be repeated only once with consent of the instructor. The Staff

203A-203B. Chinese Philosophical Texts. May be repeated for credit with the consent of the instructor. Mr. Strassberg

213. Chinese Buddhist Texts. May be repeated for credit with the consent of the instructor. The Staff

214A-214B. Pali and Prakrit. A knowledge of Sanskrit equivalent to course 161, and consent of instructor. Grammatical studies and reading of texts. Comparative considerations. Mr. Scharfe

221A-221B. Introduction to Panini’s Grammar. Prerequisite: course 162 or equivalent. Reading of selected passages of the text with an introduction to Panini’s technique. Mr. Scharfe

222A-222B. Vedic. (Same as Near Eastern Languages (Iranian Section) M222A-222B) Prerequisite: a knowledge of Sanskrit equivalent to course 162, and consent of instructor. Characteristics of the Vedic dialect and readings in the Rig-Vedic hymns. M222B only may be repeated for credit. Mr. Schmidt

223. History of the Japanese Language. The Staff

229A-229B. Japanese Buddhist Texts. Texts may be repeated for credit with the consent of the instructor. The Staff

240. Advanced Chinese Classics. Prose and poetry in the Classical style. May be repeated for credit with the consent of the instructor. Ms. Wong

242A-242B. Japanese Classics. Prose and poetry up to 1600. Prose and poetry from 1600 to 1868. May be repeated for credit with the consent of the instructor. Mr. Befu

244. Seminar in Chinese Fiction. Prerequisites: course 113B and 151 and graduate standing in the department. Discussion of the historical development of Chinese fiction, and readings from periodicals, classic novels, and modern novels. Mr. Strassberg

245. Seminar in Modern Japanese Literature. May be repeated for credit with the consent of the instructor. Mr. Epp

247. Selected Readings in Sanskrit Texts. May be repeated for credit with the consent of the instructor. Mr. Scharfe

250. Seminar in Medieval Japanese Literature. Prerequisite: one year of classical Chinese. Selected readings in travel poetry, travel diaries and other genres of Japanese travel literature of the Heian, Kamakura, Nambokucho and Muromachi periods. May be repeated for credit with the consent of the instructor. Mr. Plutschow

251. Seminar: Selected Topics in Chinese Literature. May be repeated for credit. Ms. Wong

252. Seminar: Selected Topics in Japanese Literature. May be repeated for credit. Mr. Befu

253. Seminar: Selected Topics in Japanese Buddhism. May be repeated for credit. The Staff

255. Seminar: Selected Topics in Chinese or Indian Buddhism. May be repeated for credit. The Staff

261A-261B. Seminar in Classical Chinese Poetry. Prerequisites: course 152A and/or B, or consent of the instructor. 261A. Chinese poetry from the Shih-ching phase to the sixth century, with emphasis on the evolution of the Chinese language 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. Mr. Wong

270. Seminar: Selected Topics in Chinese Archaeology. Prerequisites: course 170A or 170B, or consent of the instructor. May be repeated for credit. Mr. Chou

275. Seminar: Selected Topics in Chinese Cultural History. May be repeated for credit. Mr. Chou

285. Selected Topics in Buddhist Culture. May be repeated for credit with the consent of the instructor. The Staff

289. Bibliography and Methods of Research in Chinese. Required of all graduate students in Chinese. Mr. Chou

298. Bibliography and Methods of Research in Japanese. Required of all graduate students in Japanese. Mr. Betu

Professional Courses

301. Teaching an Oriental Language as a Foreign Language. The Staff

Individual Study and Research

All of these courses will be graded Satisfactory/ Unsatisfactory. A student may repeat these courses with the consent of the instructor, however, none of these may apply toward the minimum course requirement for the M.A.

501. Cooperative Program. (1 to 2 courses) Prerequisite: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

596. Directed Individual Studies. (1 to 3 courses) The Staff
PATHOLOGY
(Shqul Office, 13-267 Center for the Health Sciences)

Marcel A. Baluda, Ph.D., Professor Pathologist
Luciano Barajas, M.D., Professor of Pathology in Residence.
William J. Barlow, M.D., Professor of Pathology and Psychiatry.
V. C. Beckett, M.D., Associate Professor of Pathology (Vis-a-Chairman of the Department).
Robert Y. Foos, M.D., Professor of Pathology.
Hideo E. Ishihashi, M.D., Professor of Pathology and Neurology in Residence.
Harrison Latta, M.D., Professor of Pathology.
Michael Lubran, M.D., Ph.D., Professor of Pathology in Residence.
William J. Martin, Ph.D., Professor of Pathology in Residence.
Norman A. Myhre, Ph.D., Professor of Pathology in Residence.
Donald E. Paglia, M.D., Professor of Pathology.
David D. Porter, M.D., Professor of Pathology.
Denis O. Rodgerston, Ph.D., Professor of Pathology in Residence.

Geoffrey Smith, M.D., Professor of Pathology.
Julien L. Van Lancer, M.D., Professor of Pathology (Chairman of the Department).
Robert V. Varney, M.D., Professor of Pathology.
Jerry Waisman, M.D., Professor of Pathology.
Roy L. Walford, M.D., Professor of Pathology.
Luzano Zamboni, M.D., Professor of Pathology in Residence (Vis-a-Chairman of the Department).
William H. Barnes, M.D., Emeritus Professor of Pathology.
Ph. C. F. Po, Ph.D., Associate Professor of Pathology in Residence.
Ruth Gussom, M.D., Adjunct Associate Professor of Pathology.
Klaus I. Lewin, M.D., Associate Professor of Pathology.
Joseph M. Mier, M.D., Associate Professor of Pathology.
Rey J. Morton, M.D., Associate Professor of Pathology in Residence.

Uwamie Tomiyasu, M.D., Associate Clinical Professor of Pathology.
Garth Aust, M.D., Ph.D., Assistant Professor of Pathology.
David D. Barkley, Ph.D., Assistant Professor of Pathology in Residence.
Judith A. Berliner, Ph.D., Assistant Professor of Pathology in Residence.
Arthur H. Cohen, M.D., Assistant Professor of Pathology in Residence.
Faye A. Eggdell, M.D., Ph.D., Assistant Professor of Pathology.
Thomas Grossett, M.D., Assistant Professor of Pathology in Residence.
Juan Lezaga, M.D., Ph.D., Assistant Professor of Pathology in Residence.
Geoffrey H. Meyer, M.D., Ph.D., Assistant Professor of Pathology.
Frances Naum, M.D., Assistant Professor of Pathology in Residence.
John M. O'Donnell, M.D., Assistant Professor of Pathology in Residence.

Dorothy Rosenblum, M.D., Lecturer in Pathology.
Joseph Raymond, M.D., Lecturer in Pathology.
Takanori Tomura, M.D., Ph.D., Specialist in Pathology.

Admission to Graduate Status

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 1 year of Calculus, 1 year of Physics, 1 year of General Chemistry, 1 year of Organic Chemistry, and 1 year of Biological Sciences. Physical Chemistry, a course in Molecular Biology, and a course in Histology are also strongly recommended. In some cases, deficiencies in the prerequisite requirements may be fulfilled in the first year of study.

Requirements for the Ph.D. Degree

1. The following courses are required: Pathology 231A, M240, 242A, 242B, and 242C, 244, 251, and 250. In addition, students beginning the program with a Bachelor's degree select 40 units from other areas of individual interest. Students entering the program with a Master's degree may have fewer elective units to complete toward the Ph.D.

2. There is no language requirement.

3. The student must complete successfully both written and oral qualifying examinations, gain teaching experience in Introductory Pathology, and present and defend his dissertation on his research. His total program will require 4-5 years to complete.

Graduate Courses

200A. Dental Pathology. (4 course) Prerequisite: consent of instructor. Course of Pathology for Dental Students emphasizing the fundamental causes of disease processes, using as examples such as lesions of major organ systems.

Mr. Foos and the Staff

231A. Pathological Anatomy and Physiology. Prerequisite: regular graduate student status 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. The major disease states are presented using an interdisciplinary approach as manifesta- tion of pathophysiologic processes rather than as isolated entities. This course is offered on an In Progress Basis which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for all quarters of work. The Staff

232. Topics in Vertebrate Neurobiology. (4 course) An introduction to the cell biology of the vertebrate central nervous system with special reference to its development, structure, and potential disease processes. The Staff

235A-235B. Regulation of Gene Expression in Mammalian Cells. (4 course each) Prerequisite: consent of instructor. Description of intracellular information flow in mammalian cells by stimuli of different natures as well as induced changes such as induction, repression, differentiation and trans- formation; the regulation of gene activity. Use of microslides will be presented. The course is offered on an In Progress Basis which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for all quarters of work. The Staff

235A. Fall Quarter, 235B. Winter Quarter. The Staff

235B-236. Immunopathology. (4 course) Lectures, two hours per week. 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 will include immune complex disease, antibody-mediators, cellular immunity, and infectious diseases.

Mr. Glass, Mr. Porter

242A. Molecular Mechanisms in Disease. (4 course) Prerequisite: course 231A, consent of instructor. The course concerns itself with a description of molecular events resulting from administration of injurious chemical and physical agents (e.g., x-rays, carcinogens, toxins, etc.) and from reactions to injuries (e.g., necrosis, degeneration, hyperplasia, neoplasia, inflammation, etc.) and also with an interpretation of structural and functional disturbances in terms of the molecular alterations.

Mr. Van Lancer and the Staff

242B. Molecular Mechanisms in Disease. (4 course) Prerequisite: course 242A, consent of instructor. This course is a continuation of Pathology 242A, both of which concern themselves with descriptions of molecular events resulting from administration of injurious chemical and physical agents (e.g., x-rays, carcinogens, toxins, etc.) and from reactions to injuries (e.g., necrosis, degeneration, hyperplasia, neoplasia, inflammation, etc.); and also with an interpretation of structur-
tural and functional disturbances in terms of molecular alterations.

J. Van Lancker and the Staff

242C. Molecular Mechanisms in Disease. (% course) Prerequisite: course 242A, 242B; consent of instructor. This course is a continuation of Pathology 242A and 242B which deal with the biochemistry and molecular biology of disease processes and the mechanisms of inherited metabolic errors and the administration of injurious chemical or physical agents. This particular segment will cover aspects of neoplasia relating to both the control of cell growth and chemical carcinogenesis and the biology of cancer.

Mr. Moyer and the Staff

246. Directed Individual Study or Research. (1 to 3 courses) Individual research with members of our staff or of other departments, the latter for the purpose of supplementing programs available in our department. Graded S/U.

247. Preparation for Qualifying Exams. (% to 2 courses) Preparation of one year of course work in pathology. Individual study for qualifying exam. Graded S/U.


PHARMACOLOGY

(Department Office, 23-278 Center for the Health Sciences)

16John A. Bevan, B.Sc., M.B., B.S., Professor of Pharmacology.
16Arthur K. Cho, Ph.D. Professor of Pharmacology (Chairman of the Department).
16Robert George, Ph.D., Professor of Pharmacology.
16Donald J. Jenden, B.Sc., M.B., B.S., Professor of Pharmacology (Associate Chairman of the Department).
16Peter Lonax, M.D., D.Sc., Professor of Pharmacology.
16Dermot T. Taylor, M.A., M.D., Professor of Pharmacology.
16Jeremy H. Thompson, M.D., F.R.C.P., Professor of Pharmacology.
16Rosemary D. Bevan, M.D., Associate Professor of Pharmacology.
16Don H. Cattin, M.D., Associate Professor of Pharmacology and Medicine.
16Matthew E. Conolly, M.D., Associate Professor of Pharmacology and Medicine.
16David Fairchild, Ph.D., Associate Professor of Pharmacology.
16Sue P. Duck, Ph.D., Assistant Professor of Pharmacology in Residence.
16Larry A. Wheeler, Ph.D., Assistant Professor of Pharmacology.
16II Jin Bak, Ph.D., D.D.S., Adjunct Associate Professor of Pharmacology.
16Robert O. Bauer, M.D., Professor of Anesthesiology, Obstetrics and Gynecology and Pharmacology.
16Joseph H. Borchardt, Ph.D., Lecturer in Pharmacology.
16Yi-Han Chang, Ph.D., Adjunct Associate Professor of Medicine and Pharmacology.
16Mark A. Gold, M.D., Ph.D., Professor of Neurology and Pharmacology.
16William L. Hewitt, M.D., Professor of Medicine and Pharmacology.
16Murray E. Jarvik, M.D., Ph.D., Professor of Pharmacology.
16Louis Levy, Ph.D., Professor of Medicine and Pharmacology.
16R. Craig Kamanurter, Ph.D., Lecturer in Pharmacology.
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Admission to Graduate Status

In addition to meeting the requirements of the Graduate Division, the student must have received the bachelor's degree in a biological or physical science or in the premedical curriculum, provided that the following, or their equivalents, have been completed: 6 semester units of college mathematics, 8 units of physics, 16 units of chemistry (including quantitative analysis and organic chemistry), 8 units of zoology (including comparative gross and microscopic anatomy), 8 units of mammalian physiology (including laboratory), 10 units of biochemistry (including laboratory) in suitable cases, students who have not completed the above requirements may be admitted to graduate status, but the deficiencies will have to be removed within a specified time.

Requirements for the Degree of Master of Science

Students entering graduate study in the Department of Pharmacology will be expected to pursue the Ph.D. degree. Exceptional cases may be considered for the degree of Master of Science. In those cases, candidates for the master's degree must meet the general requirements set by the Graduate Division for this degree.

Requirements for the Doctor of Philosophy

Degree Admission to Candidacy. In addition to the general requirements of the Graduate Division, the student may be required to pass a series of qualifying examinations both written and oral. The Departmental Guidance Committee may also stipulate additional requirements. The candidate must be appointed by the Chairman of the Department.

The responsibility for completion of all technical requirements for the doctor's degree rests solely with the candidate.

Departmental Requirements. In addition to the general requirements of the Graduate Division the student must complete the following courses or their equivalents:

2. Pharmacology 200 Introduction to Laboratory Research (must be taken three times).
3. Pharmacology 201 (Introduction to Therapeutics and Toxicology).
4. Pharmacology 202 (Pharmacological Basis of Therapeutics).
7. Pharmacology 241 (Introduction to Chemical Pharmacology).
8. Pharmacology 251 (Seminar).
9. Pharmacology 291 (Selected Topics – must be taken three times).
10. Physiology 101; Physiology 102; Physiology 103; Physiology 104.

Upon completion of the first two years of study each student will be required to take a comprehensive examination at which time the student will be recommended 1) for continuation of his studies towards the Ph.D. degree; 2) for further remedial study; or 3) for termination.

Upper Division Courses

101A-101B101C. Elements of Pharmacology. (2 courses) Prerequisite: enrollment in School of Dentistry or consent of the instructor. Required course for junior dental students. A general consideration of the modes of action and the pharmacological and toxicological effects of drugs with a more detailed study of those agents used in clinical dentistry and the principles governing their use.

199. Special Studies. (% to 2 courses) Prerequisite: consent of instructor and Chairman of the Department. Special studies in pharmacology, including either reading assignments or laboratory work or both, designed for appropriate training of each student who registers in this course.

Graduate Courses

200. Introduction to Laboratory Research. (% to 1 course) Prerequisite: consent of the instructor. Individual projects in laboratory research for beginning graduate students. At the end of each quarter the student will submit to his/her supervisor a report covering the research performed. Pharmacology graduate students must take this course three times during their first two years in residence.

201. Principles of Pharmacology. Prerequisite: Mammalian Physiology and Pharmacology. A systematic consideration of the principles governing the interaction between drugs and biological systems, and of the principal groups of drugs used in therapeutics. Particular attention is focused on the mechanisms of action of drugs as a basis for providing a scientific basis for their rational use in medicine.

Mr. Bevan in charge

202A-202B. Clinical Pharmacology. (2 courses) A series of lectures and case presentations designed to illustrate the principles of pharmacology in a clinical context, and the solution of problems of practical therapeutic use by reference to pharmacokinetics, mechanisms of action and disposition of drugs.

Mr. Conolly in charge

212A-212B. Graduate Commentary: Clinical Pharmacology. (2 courses) Principles of Physiology: Mammalian Physiology and Biochemistry. A supplementa-
tion of topics covered in Pharmacology 202A and 202B. Primarily for graduate students. Mr. Conolly

234A-234B-234C. Experimental Methods in Pharmacology. (4 course each) Prerequisite: consent of instructor. A survey of experimental methods and instrumentation used in the analysis, identification, and study of mechanisms of action of pharmacologically active compounds.

Mr. Chang, Mr. Cho, Mr. George

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 neurotransmitters. Mr. George

*237. Neurotransmission. Prerequisite: courses 241, 234A-234B-234C. Consent of instructor. A detailed examination of neuronal chemical transmission, dealing in particular with the cholinergic and adrenergic systems of the mechanism pharmacologically agents that affect them. The evidence for mechanisms involving other possible transmitters will also be critically examined.

Mr. Bevan, Mr. George, Mr. Jenden

*242. Psychopharmacology. (Same as Psychiatry M239) Prerequisite: Psychopharmacology. 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. George, 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. (4 course each) Mr. Chang

*253. Seminar in Environmental Toxicology. (4 course) Prerequisite: consent of instructor. Oral reports and discussions of current research on chemical pollutants in the environment and the effects of drugs on their effects on biological systems and the mechanism of these effects. Mr. Jenden

*261. Introduction to Clinical Pharmacology. (4 course) Prerequisite: consent of instructor. Lectures, case presentations and discussions designed to acquaint the student with the problems and effects encountered in clinical use of drugs, including absorption, metabolism and excretion, drug interactions and interference with clinical laboratory tests. Mr. Staff

291. Special Topics in Pharmacology. (1 to 3 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. Credit cannot be earned for the same topic received by full-time postbaccalaureate students and postdoctoral fellows. May be taken for credit three times.

The Staff

Individual Study and Research

596. Directed Individual Research in Pharmacology. (1 to 3 courses) The Staff

599. Research for and Preparation of the Doctoral Dissertation. (1 to 3 courses) The Staff

PHILOSOPHY

(Department Office, 321 Dodd Hall)

Marilyn Adams, Ph.D., Professor of Philosophy.
Robert McDowell, Ph.D., Professor of Philosophy.
Nancy K. Nathan, Ph.D., Professor of Philosophy. 
Keith S. Druckrey, Ph.D., Professor of Philosophy. 
Robert F. Druckrey, Ph.D., Associate Professor of Philosophy.
Montgomery Firth, Ph.D., Professor of Philosophy. 
Donald Kalish, Ph.D., Professor of Philosophy. 

David Kaplan, Ph.D., Professor of Philosophy. 
Herbert Morris, Ph.D., Professor of Philosophy and Law. 
Richard Wasserman, Ph.D., Professor of Philosophy and Law. 
Robert M. Yost, Ph.D., Professor of Philosophy. 
Hugh Miller, Ph.D., Professor of Philosophy. 
Wesley Robson, Ph.D., Emeritus Professor of Philosophy. 
Tyler Burge, Ph.D., Associate Professor of Philosophy. 
Thomas E. Hill, Jr., Ph.D., Associate Professor of Philosophy. 
Warren S. Quinn, Ph.D., Associate Professor of Philosophy. 
Gregory Kawka, Ph.D., Assistant Professor of Philosophy.

Preparation for the Major

Courses 21, 22, 31, and one other lower division course in Philosophy.

The Major

Twelve upper division or graduate philosophy courses (48 units). Seven of the twelve courses must be contributed from the groups in which the undergraduate and graduate courses are divided, in the following manner: two courses (8 units) in each of three of the groups, and one course (4 units) in the remaining group.

Courses listed under "No Group" may apply toward the major but not toward a group requirement. No course employed to satisfy the major or preparation requirements may be taken on a P/NP basis.

Upon the completion of the Philosophy 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 (8 units) in philosophy with an average grade of 3.5.

Students intending to do graduate work in Philosophy should consult with the graduate adviser as well as with the undergraduate adviser.

Admission to Graduate Status

Students interested in admission to graduate study should write to the Graduate Adviser, Department of Philosophy, for documents describing the graduate program. An undergraduate major in Philosophy is not required, although some undergraduate preparation is expected.

The graduate program is designed for those who wish to work for the Ph.D. in Philosophy. Normally, persons are not admitted who wish to pursue only an M.A. program. Admission is normally granted for the Fall Quarter only.

First Year Graduate Program

During the Fall, Winter, and Spring Quarters of his first full academic year, each graduate student enrolls in Philosophy 200-200B-200C. These courses serve as the core of the first year graduate program.

First Year Examination

During the first year of graduate study, each student takes a written examination on the material covered in Philosophy 200A-200B-200C that year, plus a written examination on elements of three courses. Candidates for the M.A. may, if necessary, repeat the First Year Examination during their second year, since it serves as the M.A. Comprehensive Examination.

Admission to the Doctoral Program

At the end of a student's first year, the faculty determines whether the student is to be admitted to the doctoral program. This decision is based on his performance in his first year courses, including Philosophy 200A-200B-200C, on his performance in the First Year Examination, and on any other available evidence concerning his ability to complete the program successfully. (Passage of the First Year Examination is neither necessary nor sufficient for admission to the doctoral program.) In exceptional circumstances the decision may be postponed to the second year.

Requirements for the Master's Degree

General Requirements. See Master's Degrees.

Foreign Language. A reading knowledge of one of the following languages: Greek, Latin, French, or German. On petition to the Department, another language relevant to the candidate's field of specialization may be chosen.

Comprehensive Examination. Passage of the First Year Examination which all graduate students are required to take.

Course Requirement. At least nine courses (36 units) numbered over 100 (excluding 199), five courses (20 units) of which must be in philosophy courses numbered between 200 and 296, including 200A-200B-200C.

Requirements for the Candidate in Philosophy Degree

The Candidate in Philosophy Degree (B.Phil.) is awarded upon a Ph.D. candidate's formal advance-ment to candidacy. A student is advanced to candidacy for the doctorate when he has completed all requirements for the Ph.D. except the dissertation, and the final examination. The Candidate in Philosophy Degree is not a terminal degree. The Department will not recommend a student for advancement to candidacy and at the same time disqualify him for continued registration and further study or research on his dissertation. If a student withdraws from the University after advancement to candidacy and at award of the C.Phil., then the Department will readmit him upon application, provided the period of absence has not exceeded seven years. An undergraduate major in Philosophy is not required, although some undergraduate preparation is required. Students to proceed beyond the C.Phil. Four quarters of academic residence, three of which (normally the last three) must be spent in continuous residence at UCLA, are required for the C.Phil.

Requirements for the Doctor's Degree

General Requirements. See Candidate in Philosophy Degree.

Foreign Language. A good reading knowledge of one of the following languages: Greek, Latin, French, German. On petition to the Department, another language relevant to the candidate's field of specialization may be substituted. This requirement may be met either (a) by the completion, at UCLA or elsewhere, of the equivalent of two courses in a two year sequence of college courses in the chosen language, with a grade of C or better, or (b) by passing a translation examination, administered by the Department, from a philosophical book selected by the candidate with Departmental approval.

Course Requirement. Twelve courses in the 100 and 200 series (excluding 199), distributed as follows:

Logic: 135 and either 133 or 134. Two upper division or graduate courses in logic in either the Philosophy or Mathematics Department approved by the student's advisor.

Metaphysics and epistemology: Two courses or seminars in the 200 series, including the required first year seminar in metaphysics and epistemology.

Ethics and value theory: Two courses or seminars in the 200 series, including the required first year seminar in ethics.

History of philosophy: Three courses or seminars in the 200 series, including the required first year seminar in the history of philosophy.

Elective: Three additional upper division or graduate courses or seminars, of the student's choice.

First Year Examination. Before admission to the doctoral program, each student must take a First Year Examination on the content of the three required seminars (200A-200B-200C) and on the contents of the beginning logic courses (31 and 32). Passage of the examination is a requirement for the M.A. but not for the Ph.D. Performance in the examination, however, is an important part of the evidence considered in determining admission to the doctoral program (see above).

NOTE: For key to symbols, see page 74
### Philosophy

**Proposition Requirement**
Two accepted propositions, one in Ethics and Value Theory, the other in Metaphysics and Epistemology. A proposition is a substantial research paper which formulates a philosophical research topic as a thesis. Since the proposition is a short and formal statement, the student is not expected to develop a complete argument. The student must then justify the thesis with ample supporting evidence. The student must submit a general statement of topic or problem area for his dissertation. A dissertation committee will be appointed. The student must register at least four units of course 596 each quarter that he is registered until he is admitted to candidacy. In any case, the dissertation project must be submitted before the oral qualifying examination can be held.

**Oral Qualifying Examination**
An oral examination administered by the doctoral committee appointed by the Dean of the Graduate Division. The candidate is examined by (a) on substantial written evidence of progress in the dissertation project (as described above) which he has submitted to the committee at least ten days in advance of the examination; and (b) on the field of the dissertation and areas in which competence is required for successful completion of the dissertation.

**Dissertation**
A dissertation is a subject chosen by the candidate and approved by his doctoral committee and the Dean of the Graduate Division.

**Final Examination**
An oral examination in the field of the student's special interest as represented by his dissertation, may be required of the student at the option of the departmental committee who is authorized to approve the dissertation. Normally, the decision whether to require such an examination will be made at the time of the preliminary examination.

For details of requirements for all graduate degrees in Philosophy as well as the timetable under which the various requirements are to be completed, consult the department's Graduate Manual, obtainable upon request from the Department office.

### Lower Division Courses
All lower division courses are introductory and without prerequisites except as otherwise stated.

1. **The Beginnings of Western Philosophy**
   Lecture, three hours; discussion section, 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 ideas, the foundations of morality, the concept of God, soul and body, the nature of psychological knowledge.
   Instructor: Mr. Albritton, Mr. Furth

2. **Introduction to the Philosophy of Religion**
   Lecture, three hours; discussion section, 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 and scientific knowledge. Readings will be chosen from such authors as: Brehm, Thomas Mere, Marx, B.F. Skinner and Sartre.
   Instructor: Mr. Hill

3. **Personal and Social Ideals**
   Lecture, three hours; discussion section, one hour. A study of various conceptions of human perfection and social utopias. Readings will be chosen from such authors as: Beattie, Thomas More, Marx, B.F. Skinner and Sartre.
   Instructor: Mr. Cassirer

4. **Philosophical Analysis of Contemporary Moral Issues**
   Lecture, three hours; discussion section, one hour. A critical study of principles and arguments advanced in discussion of current moral issues. Possible topics: revolutionary violence, rules of warfare, sexual morality, the right of privacy, punishment, nuclear warfare and deterrence, abortion and mercy-killing, experimentation with human subjects, rights of women, the drug culture.
   Instructor: Mr. Kavka, Mr. Quinn, Mr. Wasserstrom

5. **Philosophy in Literature**
   Lecture, three hours; discussion section, one hour. A philosophically oriented literary analysis of such topics as: the nature of such freedom, responsibility, guilt, love, self-knowledge and self-deception, death and the meaning of life, by examination of great literary works in the Western tradition.
   Instructor: Mr. Morris

6. **Recurring Philosophical Themes in Black Literature**
   Lecture, three hours; discussion section, one hour. Analysis of some main themes in Afro-American critical writings; for example, assimilation, cultural nationalism, and separatism in the writings of Booker T. Washington, Frederick Douglass, W.E.B. Du Bois, and others.

7. **Historical Introduction to Moral and Political Philosophy**
   Lecture, three hours; discussion section, one hour. An introductory study of philosophical issues about the nature of the relationship to the body, including some of the following topics: utilitarianism, functionalism, behaviorism, determinism and free will, the nature of psychological knowledge.
   Instructor: Mr. Burge

8. **Introduction to the Philosophy of Science**
   Lecture, three hours; discussion section, one hour. An introduction to philosophical questions about the nature of science, drawing examples from specific scientific theories and controversies that can be understood within a particular 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**
   Lecture, three hours; discussion section, one hour. The nature of arguments: how to analyze them and assess the soundness of the reasoning they represent. Common fallacies that often occur in arguments will be discussed in light of what counts as a good deductive or inductive inference. Other topics to be discussed include the use of language in argumentation to arouse emotions as contrasted with conveying thoughts, the role of scientific experiments and hypothesis-testing in general and the general ideas of generalization, functionalism, behaviorism, determinism and free will, the nature of psychological knowledge.
   Instructor: Mr. Burge

### Upper Division Courses

**Group I**

10A. **Plato—Earlier Dialogues**
   Formerly numbered 502A. Lecture, three hours; discussion section, one hour. A study of selected topics in the early and middle dialogues of Plato.
   Instructor: Mr. Furth

10B. **Plato—Later Dialogues**
   Formerly numbered 502B. Lecture, three hours; discussion section, one hour. A study of selected topics in the middle and later dialogues of Plato.
   Instructor: Mr. Furth, Mr. Quinn

11A. **Aristotle**
   Lecture, three hours; discussion section, one hour. A study of selected works of Aristotle.
   Instructor: Mr. Furth

11B. **Topics in Islamic Philosophy**
   Lecture, three hours; discussion section, one hour. A study of one or more philosophical themes within the framework of Judeo-Christian theology and its assimilation and criticism of the Greek philosophical heritage. Focus on the problem of universals, the existence and nature of God, the problem of evil, and the doctrines of the Trinity and atonement. Selected readings from Augustine through Maimonides, in English translation.
   Instructor: Mrs. Adams

11C. **Later Medieval Philosophy**
   Lecture, four hours. Prerequisite: course 101 in philosophy or consent of the instructor. The development of medieval philosophy from the separation of philosophy from theology in the 12th century, through the works of some medieval philosophers. Consult the Department of Philosophy for special topics to be treated in a given quarter. May be repeated for credit with consent of instructor.
   Instructor: Mrs. Adams

11D. **Descartes**
   Lecture, four hours. Prerequisite: course 101 in philosophy or consent of the instructor. A study of the philosophy of Descartes with emphasis on the Meditations. Such issues as the problems of skepticism, the foundations of knowledge, the existence of God, the relation between mind and body will be discussed. Enrollment will be limited to 30 students when offered concurrently with 209.
   Instructor: Mr. Yost

11E. **Spinoza**
   Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of the instructor. A study of the philosophy of Spinoza. May be concurrently scheduled with course 211, in which case there will be a weekly discussion meeting for undergraduates only, and fewer readings and papers. A total of 30 undergraduates will be accepted. Graduate students will be enrolled for credit only.
   Enrollment is limited to 30 students when offered concurrently.
   Instructor: Mr. Adams

11F. **Leibniz**
   Lecture, three hours; discussion section, one hour. Prerequisite: course 21 or consent of the instructor. A study of the philosophy of Leibniz. May be concurrently scheduled with course 211, in which case there will be a weekly discussion meeting for undergraduates only, and fewer read-
ings and shorter papers will be required of under-
graduates than of graduates. Enrollment is limited to 30 students when offered concurrently.
Mr. Adams
112. Locke and Berkeley. Lecture, four hours. Prereq-
quisite: one course in philosophy or consent of the
instructor. A study of the philosophies of Locke
and Berkeley. Emphasis may sometimes vary from
one figure to the other. May be offered concurrently
with course 212. Mr. Donnellan
113. Kant. Lecture, three hours; discussion section,
one hour. Prerequisite: course 21 or 22 or consent of
the instructor. Selected topics in the work of Kant
or more of the following philosophers: Bolzano,
Fregé, Husserl, Meinong, the early Russell and Wit-
gerstein. Mr. Burge
GROUP II
125. Introduction to Modern Logic. Lecture, three
hours; discussion section, one hour. Prereq-
quisite: one course in philosophy or consent of the
instructor. A survey of elementary topics in sentential logic,
axiomatic foundations of arithmetic, calculi of classes;
proof theory; elementary theories of probability,
modal logic. Mr. Kalish
126A. Philosophy of Science. Lecture, three hours;
discussion section, one hour. Prerequisite: course 31 or course 125. An analysis of confirmation,
and theory in the sciences. Mr. Hill
126B. Philosophy of Science. Lecture, three hours;
discussion section, one hour. Prerequisite: course
126A or consent of the instructor. Certain
philosophical problems regarding the content of
the sciences. Mr. Hill
126C. Philosophy of Science: Social Sciences. Lec-
ture, three hours; discussion section, one hour. Prereq-
quisite: two courses in philosophy or consent of the
instructor. A discussion of topics in the philos-
ophy of social science; e.g., the methods of the social
sciences in relation to the physical sciences; value-
bias in social science; concepts of certainty in social
construction; explanation and prediction; the
nature of social laws. Mr. Burge, Mr. Church, Mr. Kaplan
127A. Philosophy of Language. Lecture, four
hours. Prerequisite: course 31 or consent of the
instructor. Syntax, semantics, pragmatics. The
semantic conception of the word and sentence; synonymy
and analyticity, modalities and tenses, indirect discourse,
indexical terms, semantical paradoxes. May be repeated for credit with the consent of the
instructor. Mr. Burge, Mr. Church, Mr. Kaplan
127B. Philosophy of Language. Lecture, four hours.
Prerequisites: course 32 or consent of the instruc-
tor. Course 127A is not a prerequisite for course
127B. Selected topics similar to those considered in
course 127A will be discussed but at a more
advanced and technical level.
Mr. Church, Mr. Kaplan
128A. Philosophy of Mathematics. Lecture, four
hours. Prerequisite: course 31, 32, and preferably
one additional course in logic. The philosophy of
mathematics; logicism of Frege and Russell,
arithmetic reduced to logic; ramified type theory
and impredicative definition (Russell, Poincare,
the early Weyl).
Mr. Church
128B. Philosophy of Mathematics. Lecture, four
hours. Prerequisite: course 128A or consent of the
instructor. Intuitionism of Brouwer, Heyting,
and the later Weyl; proof theory of Heyting.
Mr. Church
129. Philosophy of Psychology. Lecture, three
hours; discussion section, one hour. Prerequisite:
one 4-unit course in Psychology and 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 syn-
tax; behaviorism; structuralism and alternatives;
philosophy and psychology. Mr. Burge
133. Logic, Third Course. Lecture, four hours. Prereq-
quisite: course 32. Topics in logic and semantics;
formal theories, definitions, alternative theories of
descriptions.
Mr. Kalish, Mr. Kaplan
134. Introduction to Set Theory. Lecture, four
hours. Prerequisite: course 32, or upper division
standing in mathematics and consent of the instruc-
tor. Introduction to axiomatic set theory; sets,
natural numbers, relations, functions, cardinality,
order.
Mr. Kalish
135. Introduction to Metamathematics. Lecture,
four hours. Prerequisite: course 32; 134 recom-
manded. Models, satisfaction, truth, definability;
logical truth and logical consequence; consistency
and completeness. Mr. Church, Mr. Kalish, Mr. Kaplan
136. Modal Logic. Lecture, four hours. Prerequisite:
course 32; 133 or 135 recommended. The logic of
necessity and possibility. Various formulations of
the syntax and semantics of such logics. The prob-
lem of interpreting quantified modal logic, deontic,
and other non-extensional logics. Mr. Kaplan
GROUP III
150. Society and Morals. Lecture, three hours; dis-
cussion section, one hour. Prerequisite: course 22 or consent of the instructor. A critical study of prin-
ciples and arguments advanced in discussion of
moral and social issues. The topics will be similar to
t hose of course 4, but familiarity with some
basic philosophical concepts and methods will
be presupposed. May be repeated for credit
with the consent of the instructor.
Mr. Hill, Mr. Kavka, Mr. Quinn
151A-151B. History of Ethics. Lecture, three hours;
discussion section, one hour. Prerequisite: two
courses in philosophy or the consent of the instruc-
tor. Course 151A is not a prerequisite for 151B.
151A. Selected classics in earlier ethical theories.
151B. Selected classics in later ethical theories.
Mr. Hill, Mr. Kavka, Mr. Quinn
153A. Topics in Ethical Theory: Normative Ethics.
Lecture, four hours. Prerequisite: course 22 or con-
sent of instructor. A study of selected topics in nor-
mative ethical theory. Topics may include various
conceptions of the right of action, human
rights, virtues and vices, principles of culpability
and praise-worthiness. Mr. Hill, Mr. Kavka,
Mr. Quinn
153B. Topics in Ethical Theory: Metaethics. Lec-
ture, four hours; discussion section, one hour. Prereq-
quisite: consent of the instructor. A study of selected topics in
metaethics ethical theory. Topics may include the
analysis of moral language and the justification of
certain moral statements. Mrs. Foot, Mr. Quinn
154. Moral Issues and the Professions. Lecture,
three hours; discussion section, one hour. Prereq-
quisite: consent of the instructor, course 22 recom-
manded but not required. A philosophical
examination of specific moral issues, with special
emphasis on issues related to work in medicine,
law, engineering, business, and other professions.
Critical
analysis of principles presupposed in alternative
answers, and discussions of the relevance of moral
theories to the resolution of these problems. Pro-
session and individual research is stressed. Restricted
enrollment: 20. Philosophy 154 cannot be taken in
fulfillment of major requirements in Philosophy.
Either Philosophy 154 or Philosophy 150 can be
taken: credit will not be given for both. The Staff
155. Medical Ethics. An examination of the
philosophical issues raised by problems of medical
ethics such as abortion, euthanasia, and medical
 experimentation on humans.
Mr. Hill, Mr. Kavka
157. History of Political Philosophy. Lecture, three
hours; discussion section, one hour. Prerequisite:
two courses in philosophy or consent of the
instructor; course 22 is advised. Analysis of some
basic concepts in political theory. May be repeated for credit with the consent of the instructor.
Mr. Hill, Mr. Kavka
161. Topics in Aesthetic Theory. Lecture, three
hours; discussion section, one hour. Prerequisites:
One course in philosophy or consent of the
instructor. Philosophical theories about the nature and
importance of art and art criticism, aesthetic
experience, and aesthetic values. May be repeated for credit with the consent of the instructor.
Mr. Hill, Mr. Kavka
166. Introduction to Legal Philosophy. Prereq-
quisite: one course in philosophy or consent of the
instructor. An examination, through the study of
recent philosophical writings, of such topics as:
the nature of law, the relation between law and
morals, legal reasoning, punishment, and the
obligation to obey the law.
Mr. Morris, Mr. Wasserstrom
GROUP IV
170. Philosophy of Mind. Lecture, three hours; dis-
cussion section, one hour. Prerequisite: two rele-
vant courses in philosophy or consent of the
instructor. An analysis of various problems con-
cerning 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. Lecture, three hours;
discussion section, one hour. Prerequisite: two rele-
vant courses in philosophy or linguistics, or con-
sent of the instructor. Analysis of the concepts of
meaning, reference and truth in natural languages;
syntax and semantics; formulations of meaning
in natural languages; theory of speech acts. Mr. Donnellan
174. Contemporary Philosophy. Lecture, three
hours; discussion section, one hour. Prerequisite:
two lower division courses in philosophy or one
upper division course in philosophy or one course
in linguistics or consent of the instructor. An exami-
nation of the views of several recent philosophers.
Mr. Donnellan
175. Topics in Philosophy of Religion. Lecture, three
hours; discussion section, one hour. Prereq-
quisite: one course in 171A or 22 or consent of the
instructor. An intensive investigation of one or two topics or
works in the philosophy of religion, such as the
attributes of God, arguments for or against the
existence of God, or the relation between religion and
ethics. May be repeated for credit if the topic
is treated in a given quarter. May be repeated for credit
with the consent of the instructor.
Mr. Adams, Mrs. Adams, Mr. Albright
177A. Existentialism. Lecture, three hours; discus-
sion section, one hour. Prerequisite: one course in
philosophy or consent of the instructor. Analysis of
the methods, problems and views of some of the
following: Kierkegaard, Nietzsche, Heidegger,
Jaspers, Sartre, Marx, and Camus. Possible topics:
metaphysical foundations of existentialism, the
suffering, freedom, problem of the self, other people, ethics,
existential psychoanalysis.
177B. Historical Studies in Existentialism. Lecture,
three hours; discussion section, one hour. Prereq-
quisite: one course in philosophy or consent of the
instructor. A study of the central philosophical
texts of one of the following: Kierkegaard,
Nietzsche, Heidegger, Jaspers, Sartre, or Camus. The
course will focus primarily on explanation and inter-
pretation of the texts.
NOTE: For key to symbols, see page 74
178. Phenomenology. Lecture, three hours; discussion section, one hour. Prerequisite: two courses in philosophy or consent of the instructor. Introduc tion to the phenomenological method of approaching psychological problems via the works of some of the following: Brentano, Husserl, Heidegger, Scheler, Sartre, Merleau-Ponty, Ricoeur. Topics fall in the areas of ontology, epistemology, and particularly philosophy of mind.

182. Elements of Metaphysics. Lecture, three hours; discussion section, one hour. Prerequisite: course 21 or consent of the instructor. Study of basic metaphysical questions; nature of the physical world, of minds, and of universals; and the answers provided by alternative systems, e.g., Platonism: materialism: dualism. Mr. Adams, Mr. Yost

183. Theory of Knowledge. Lecture, four hours. Prerequisite: course 21 or consent of the instructor. An analysis of the concept of empirical knowledge. Mr. Yost

184. Topics in Metaphysics. Lecture, four hours. Prerequisite: course 21 or consent of the 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 causality. Consult the department for topics to be treated in a given quarter. May be repeated for credit with the consent of the instructor. Mr. Adams, Mr. Albritton, Mr. Donnellan

185. Space and Time. Lecture, three hours; discussion section, one hour. Prerequisite: two courses in philosophy or consent of the instructor. An analysis of philosophical problems concerning the nature of space and time, including traditional problems as well as questions raised by modern science.

186. Topics in the Theory of Knowledge. Lecture, four hours. Prerequisite: course 182 or 183 or consent of the instructor. An intensive investigation of one or two selected topics or works in the theory of knowledge, such as: a problem of the relation of problem of deduction, memory, knowledge as justified true belief. Consult the department for topics to be treated in a given quarter. May be repeated for credit with the consent of the instructor. Mr. Adams, Mr. Albritton, Mr. Yost

188. Philosophy of Perception. Lecture, four hours. Prerequisite: two courses in philosophy or consent of the instructor. A critical study of the main philosophical theories of perception and the arguments advanced to establish them. Mr. Yost

NO GROUP

190. Third World Political Thought. Lecture, three hours; discussion section, one hour. The political philosophy of various third world thinkers. The topics chosen may vary from year to year, but typically will be chosen from the following: Franz Fanon, Singharp and Cesaire's "Negritude", W.E.B. du Bois' Pan-Africanism, Che and Mao.

191. Mysticism. Lecture, three hours; discussion section, one hour. Prerequisite: one course in philosophy. A study of writings of mystics, concern ing the phenomenology of mystical experience, epistemological problems connected with such experiences, and the relevance of such experiences for certain systems of ethics and metaphysics. Mrs. Adams

192. Philosophical Analysis of Issues in Women's Liberation. Lecture, four hours. 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: social, moral, and emotional equality, preferential treatment, abortion, sex roles, sexual morality, marriage, love, friendship.

193. Christian Ethical Thought. Lecture, three hours; discussion section, one hour. Reading of selected classic and contemporary authors in the Christian ethical tradition, with philosophical analysis and assessment of their views on morality and the religious life. Mr. Adams

195. 19th and 20th Century Religious Thought. Lecture, three hours; discussion section, one hour. Modern Religious Thought. A philosophical approach to Western religious thought of the last two centuries, through study of selected works by such authors as Kant, Schleiermacher, Kierkegaard, Buber, Camus, and Tillich. Mr. Adams

212. Locke and Berkeley. Prerequisite: consent of the instructor. Selected topics in the philosophy of Locke and Berkeley. May be offered concurrently with course 112. May be repeated for credit with the consent of the instructor. Mr. Adams

213. Kant. (Formerly numbered 207.) Prerequisite: consent of the instructor. An intensive study of selected writings of Immanuel Kant. Mr. Yost

219. Seminar: History of Modern Philosophy. (Formerly numbered 215.) Prerequisite: consent of the instructor. Topics in nineteenth century philosophy. May be repeated for credit with the consent of the instructor. Mr. Donnellan

221B. Non-Neumannian Set Theory. Prerequisite: course 201A or consent of the instructor. Standard General Set Theory (Z-F set theory) relies on a principle of limitations of size as a means of avoiding antimony. As this principle was first formulated explicitly as an axiom of set theory by von Neumann, set theories in which it fails may appropriately be spoken of as non-Neumannian. In this course, 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 plus a strong axiom of infinity. Mr. Church

222A-222B. Gödel Theory. Prerequisite: several courses in logic, preferably including course 135. First in a series of three courses leading up to Gödel's incompleteness theorem and Tarski's definition of truth.

222B. Prerequisite: course 222A. Second-order arithmetic. Second in series of three courses leading up to Gödel's incompleteness theorem and Tarski's definition of truth.

222C. Prerequisite: courses 222A and 222B. Gödel numbering and Gödel theory. Final course in the Gödel Theory series. Mr. Church

231. Philosophy of Physics. Prerequisite: consent of the instructor. Selected philosophical topics related to physical theory, depending on interests and background of the participants. May include: space and time; observation in quantum mechanics; statistical mechanics. May be repeated for credit with the consent of the instructor.

235. Probability and Inductive Logic. Prerequisite: course 134 or Mathematics 112A-112B or consent of the instructor.

266. Topics in Mathematical Logic. Prerequisite: consent of the instructor. Courses will vary from quarter to quarter. Consult the department for topic to be treated in a given quarter. May be repeated for credit with the consent of the instructor. Mr. Kalish, Mr. Kaplan
PHYSICS / 273

PHYSICS

(3174 Knudsen Hall)

Ernest S. Alvers, Ph.D., Professor of Physics
Rudolf Braunstein, Ph.D., Professor of Physics
Nina Byers, Ph.D., Professor of Physics
Marvin Chester, Ph.D., Professor of Physics
W. Clifford Clark, Ph.D., Professor of Physics
John M. Cornwall, Ph.D., Professor of Physics
John Dawson, Ph.D., Professor of Physics
Robert Finkelnburg, Ph.D., Professor of Physics
A. Theodore Forrester, Ph.D., Professor of Physics and Engineering
Burton Fried, Ph.D., Professor of Physics
Christian Fronsdal, Ph.D., Professor of Physics
Raymond L. Orbach, Ph.D., Professor of Physics
Philip A. Fincus, Ph.D., Professor of Physics
Reginald Richardson, Ph.D., Professor of Physics
Joyce Rusdich, Ph.D., Professor of Physics
Charles A. Whitmore, Ph.D., Emeritus Professor of Physics
John Dawson, Ph.D., Emeritus Professor of Physics
James B. Kvon, Ph.D., Emeritus Professor of Physics
Lawrence Scott, Ph.D., Emeritus Professor of Physics
C. Edward Wolf, Ph.D., Emeritus Professor of Physics
John M. Cornwall, Ph.D., Emeritus Professor of Physics
John M. Cornwall, Ph.D., Emeritus Professor of Physics
Robert A. Satten, Ph.D., Emeritus Professor of Physics
Paul Maier, Ph.D., Associate Professor of Physics
Joseph Albritton, Ph.D., Emeritus Professor of Physics
Charles D. Buchanan, Ph.D., Associate Professor of Physics
S. Morton Burkhard, M.S., Lecturer in Physics

Preparation for the Major in Physics

Required: Physics 8A-8E; Chemistry 11A-11B-11L and 11C required; Chemistry 1IC is recommended. Completion of 8E is required; Mathematics 31A-31B-31C, 32A-32B-32C.

The Major in Physics

A mimeographed brochure giving more detailed information than is contained in this bulletin is obtainable from the Office of Undergraduate Affairs, Department of Physics.

The following courses are required: Physics 105A, 105B, 110A, 110B, 112A, 115A, 115B, 131A, three courses from the Physics 180 series; three additional upper division physics lecture courses selected from Physics 108, 112B, 114, 122, 123, 124, 126, 131B and 140. An upper division course in Mathematics 31A, 31B, 31C, 131B is required; upon approval of an adviser. An “A” average is required in the above courses. A reading knowledge of Russian, German or French is recommended. This major leads to the Bachelor of Science degree.

Junior transfer students should preferably have completed 1) a two year calculus-analytic geometry sequence or equivalent and 2) the calculus based physics courses at their previous college, but in no case should less than 3 semesters or 4 quarters of the mathematics and 1 year of the physics sequence be completed before transferring to UCLA. At least C grades in all mathematics and physics courses taken are required.
This degree makes the requirement "B.A. in Physics" and "B.S. in Physics" is as follows: Physics 205A, 210A, 210B, 215A, and 221A, five 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

Students may earn credentials for teaching physical sciences and other subjects in California elementary and secondary schools. Some majors are more advantageous than others for professional preparation. Completion of the Teacher Credential Program in the Teacher Education Laboratory is required. Consult with the Graduate School of Education (201 Moore Hall) for information.

Requirements for the Degree of Master of Science

A brochure giving additional information of interest to graduate students in physics is obtainable from the Office of Graduate Affairs, Department of Physics.

Prescribed Courses. The University requires a total of nine courses for the M.S. degree. The Physics Department requires that a minimum of six of the nine be graduate courses in physics of which the student must take at least four of the five fundamental courses: 231A, 220, 210A, 215A, and 221A. The remaining three courses may be satisfied by upper-division or graduate courses, not necessarily in physics, which are acceptable to the Physics Department. No more than two of the three courses may be chosen from Physics 596 or seminar courses. Physics 597 and Physics 598 are not acceptable courses for the M.S. degree.

Comprehensive Examination. A passing grade on a written qualifying examination is required. It is required that it be taken during the first year by UCLA graduates in physics or not later than the fourth quarter of residence by other students. This examination is given twice a year in the Fall and Spring quarters.

Although this Department operates under the "comprehensive examination plan," rather than the "thesis plan," arrangements generally can be made for a student to write a master's thesis, provided the student is particularly interested in research work, and provided some professor is willing to undertake the guidance of his/her work. In this case the student must petition the Departmental Committee and Graduate Advisers for permission to pursue the "thesis plan." The comprehensive examination requirement is waived if the petition is approved.

Scholarship Requirements. A grade of B or better in all regular courses is required for graduate students. The Major of Arts, Teaching (A.A.T.) Degree

This degree leads to qualification for teaching credentials at the secondary school or junior college level. The program consists of at least five graduate physics courses, four of which are chosen from 231A, 220, 215A, 210A, or 221A, five additional graduate courses in physics and education; and a special physics teaching laboratory, Physics 370. For those who have not completed credential requirements, the five additional courses will include Education 100 or 112, 312, 313, and 330 (supervised teaching at the secondary or junior college level). In addition, the student must pass a comprehensive physics examination. A brochure which describes the program is available on request to the Department of Physics.

Requirements for the Degree of Doctor of Philosophy

For the general requirements see the Graduate Division. The requirements for the Ph.D. degree in physics include (1) a written comprehensive examination; (2) the final written examinations in each of the courses 220, 210B, 221A, 215A, and 231A; (3) a comprehensive departmental oral examination; and (4) a qualifying oral examination in the student's chosen field conducted by a committee appointed by the Graduate Council upon nomination by the Department Chairman. The same committee guides the candidate's research, approves his dissertation, and conducts a final examination.

The list of required courses is currently under review. Students entering the graduate program during 1979-80 should consult an advisor concerning the requirements.

Normal Progress for Graduate Students. The normal schedule of progress toward the Ph.D. degree is as follows: the written comprehensive examination should be taken by the fourth quarter in residence at UCLA; the final written examinations should be completed no later than the end of the fifth quarter; a specialized course of study should begin during the second year; the comprehensive oral examination should be completed no later than the eighth quarter, and the oral qualifying examination (advancement to candidacy) no later than the end of the eleventh quarter; the dissertation and final oral examination should be finished during the fourth and fifth years.

Lower Division Courses

Physics 1Q. Contemporary Physics, is intended for entering freshmen physics majors, and will normally be taken in the first quarter of residence. There are no course prerequisites. Although it is not a required course or a part of or prerequisite to any general physics sequence of courses, it serves a purpose which general introductory courses do not fulfill adequately, if at all, namely to indicate the nature of current research problems in physics.

Physics 8A-8E form a sequence of courses in general physics for majors in pre-engineering. All part of the sequence is also required or recommended as first choice for majors in: astronomy, atmospheric sciences, chemistry, engineering, geology, geography, geophysical sciences, geological and geophysical sciences, and geophysical sciences and geology. Physics 8A-8E covers (at a slower pace) the material formerly covered in 7A-7D. Physics 8AH-8DH is an honors sequence intended for students with an outstanding record in high school science courses and a deep interest in physics. This sequence covers the same material as the Physics 8A-8D sequence but in greater depth.

The Department desires to take into account prior preparation in physics. Students who feel their backgrounds would permit acceleration 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. Qualified students are urged to discuss such possibilities with the instructors. Physics 3A-3B-3C form a one-year sequence of courses in general physics with laboratory) primarily for students in the biological and health sciences but open to any student who meets the prerequisites. In this sequence only algebra and trigonometry are used in providing a mathematical background. Physics 3A is not open for credit to students who have credit for Physics 8A or the 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.

Physics 3B, 3C. General Physics: Heat, Sound and Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: completion of a year of high school mathematics including trigonometry, or two years of high school mathematics and a one-term college course in mathematics with trigonometry included in the sequence. Physics 3B is not open for credit to students who have credit for Physics 8A or the 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.

Physics 6A. Physics for Life Science Majors: Mechanics and Wave Motion. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: Mathematics 3A, 3B and 3C or the equivalent. Mathematics 3C may be taken concurrently.

Physics 6B. Physics for Life Science Majors: Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: Physics 6A.

Physics 7. Physics for Life Science Majors: Light and Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 3B or equivalent. Light, optical instruments. Introduction to relativity. The electron and the atom. Matter waves. Nuclear and particle physics.

Physics 8A. Physics for Life Science Majors: Mechanics and Wave Motion. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: Physics 6A.

Physics 8B. Physics for Life Science Majors: Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 6B.

Physics 8A. General Physics: Mechanics of Solids and Fluids. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: three years of high school mathematics, including trigonometry, or two years of high school mathematics and a one-term college course in mathematics with trigonometry included in the sequence. Physics 8A is not open for credit to students who have credit for Physics 8A or the 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.

Physics 8B. General Physics: Heat, Sound and Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: completion of a year of high school mathematics including trigonometry, or two years of high school mathematics and a one-term college course in mathematics with trigonometry included in the sequence. Physics 8B is not open for credit to students who have credit for Physics 8A or the 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.
equivalent courses. Enrollment in Physics 8AH rather than 8A is left to the judgment of the student. In case of doubt, consult the instructor scheduled to give the course.

8B. General Physics: Vibration, Wave Motion, Sound, Fluids, Heat, and Kinetic Theory. (Formerly numbered 7C.) Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8A; Mathematics 31B completed and 32C concurrent with Physics 8B; or equivalent courses. (F,W,Sp)

8BH. General Physics: Vibration, Wave Motion, Sound, Fluids, Heat, and Kinetic Theory-Honors Sequence. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. This course covers the same material as 8B but in greater depth. Prerequisites: course 8AH, or course 8A with a grade of A, or the recommendation of the 8A instructor; Mathematics 31B (or preferably 31BH) completed and 31C for preferably 31CH concurrent with 8BH; or equivalent courses. (Sp)

8C. General Physics: Electricity and Magnetism. (Formerly numbered 7B.) Lecture and demonstration, four hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8B; Mathematics 31A completed and 32A concurrent with Physics 8C. (F,W,Sp)

8CH. General Physics: Electricity and Magnetism—Honors Sequence. Lecture and demonstration, four hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8BH, or course 8B with a grade of A, or the recommendation of the 8B instructor; Mathematics 31C (or preferably 31CH) completed and 32A (or preferably 32AH) concurrent with Physics 8CH; or consent of the instructor. (F,W,Sp)

8D. General Physics: Electromagnetic Waves, Light, and Relativity. (Formerly numbered 7D.) Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8C; Mathematics 32A completed and 32B concurrent with Physics 8D; or equivalent courses. (F,W,Sp)

8DH. General Physics: Electromagnetic Waves, Light, and Relativity—Honors Sequence. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8CH; Mathematics 32A completed and 32B concurrent with Physics 8D; or equivalent courses. (F,W,Sp)

8E. General Physics: Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8D; Mathematics 32B completed and 32C concurrent with Physics 8E; or equivalent courses. (F,W,Sp)

10. Physics. Lecture and demonstration, three hours; quiz and discussion, one hour. No special mathematical preparation is required beyond that which is necessary for admission to the University with Freshman standing, or equivalent. (W)

Upper Division Courses

Prerequisite for all upper division physics courses: Physics 8A 8E; Mathematics 31A-31B-31C, 32A-32B, and (except for Physics 105A and 116) 32C; or consent of the instructor. Students must complete one quarter of upper division physics before enrolling in the 180 laboratory series.


105B. Analytic Mechanics. Prerequisite: course 105A. Relativity with four-vectors, non-intertial reference frames, dynamics of rigid bodies, coupled oscillators, normal modes of oscillation, vibrating strings, and waves.

108. Optical Physics. Prerequisite: course 110B. Interaction of light with matter; dispersion theory, oscillator strength, line widths, molecular scattering. Coherence theory, Kirchhoff formulation of diffraction theory, crystal optics, optical rotation, electro and magneto optical effects. Additional topics of fundamental or current interest.

110A. Electricity and Magnetism. Prerequisite: course 131A. Electrostatics and magnetostatics.


112A. Thermodynamics. Fundamentals of thermodynamics, including the first, second, and third laws. The statistical mechanical point of view and its relation to thermodynamics. Some simple applications of the foregoing.


115A. Elementary Quantum Mechanics. Prerequisite: course 131A and 105B (the latter may be taken concurrently). The classical background, Lagrangian and Hamiltonian mechanics.

115B. Elementary Quantum Mechanics. Prerequisite: course 115A. Development of the methods and concepts of quantum mechanics.

115C. Elementary Quantum Mechanics. Prerequisite: course 115B. Further development in the methods and concepts of quantum mechanics.

116. Electronics. Three hours of lecture and three hours of laboratory. Fourier transforms, vacuum tube characteristics and parameters, transistors, amplifiers, oscillators, non-linear tube and transistor circuits.

M122. Plasma Physics. Engineering 110B or 110A. Senior level introductory course to physics of plasmas and ionized gases and fundamentals of controlled fusion. Efficient propagation, magnetic fields, fluid behavior, plasma waves, resistivity and transport, equilibrium and stability; kinetic effects. Illustrative laboratory experiments will be discussed.

123. Atom Structure. (Formerly numbered 113.) Prerequisite: course 115B. The theory of atomic structure. Interaction of radiation with matter.

124. Nuclear Physics. Prerequisite: course 115A. Nuclear charge, mass, radius, spin, and moments; nuclear models; nuclear forces; alpha, beta, and gamma emission.

126. Elementary Particle Physics. Prerequisite: course 115B. Experimental determination of the properties of elementary particle states. Relativistic quantum mechanics and perturbation theory, isospin and isotopic spin formalism; elastic and inelastic scattering; invariance principles and conservation laws; strong, electromagnetic, and weak interactions. Survey of important experiments.

131B. Mathematical Methods of Physics. Prerequisite: course 131A. Green’s functions and boundary value problems, complex variables and selected topics from Tensor, Laplace transforms, probability, Fourier theory, perturbation theory, approximation techniques.

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, dielectric dispersion of electron, neutron, and electromagnetic waves in a lattice; the reciprocal lattice; phonons and their interactions; free electron theory of metals; energy bands.

140A. Nuclear Physics Laboratory.

140B. Physical Optics and Spectroscopy Laboratory.

14180C. Solid State Physics Laboratory.

14180D. Acoustics Laboratory.

14180E. Plasma Physics Laboratory.

14180F. Elementary Particle Physics Laboratory.

14185. Foundations of Physics. Prerequisite: senior standing in physics or consent of the instructor. The historical development and philosophical sources of classical and modern physics.

199. Special Studies in Physics. (½ to 1 course) May be repeated, but not more than three courses may be applied toward the bachelor's degree.

Graduate Courses


213B. Advanced Atomic Structure. The n-j symbols, continuous groups, fractional parentage coefficients, electron spin.


215A. Statistical Physics. Thermodynamics and statistical mechanics with applications.


215C. Quantum Statistical Mechanics and the Many Body Problem. Classical Methods for interacting systems; quantum field theory techniques in statistical mechanics; Green’s-function approach; the Coulomb gas; the imperfect Bose gas; electron-phonon interaction; superconductivity; phase transitions; theory of Fermi liquid.

221A. Quantum Mechanics with Applications. Prerequisite: course 220 or consent of the instructor. Quantum Mechanics with applications. Rotations and other symmetry operations, perturbation theory, scattering theory.

221B. Quantum Mechanics with Applications. Prerequisite: course 221A. Formal theory of collision processes. Introduction to relativistic quantum mechanics.

221C. Quantum Mechanics. Continuation of non-relativistic quantum mechanics.


223. Advanced Classical Mechanics. (Formerly numbered 220B.) 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 exemplified in nucleon-nucleon and pion-nucleon systems. Isospin, the scattering matrix, the density matrix and polarization, the properties of pions, the one pion exchange potential, phase shift analysis.


225B. Advanced Nuclear Physics. Nuclear beta decay, neutrino experiments, parity violation, conserved quantities in the standard model, and the interaction between nucleons and the electromagnetic field.


226A-226B. Elementary Particle Physics. Prerequisites: courses 221A, 221B, 22A, and 230A. 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 plasma physics will be required to take three quarters of Physics 290, ordinarily during his second or third year. May be repeated for credit.

291. Research Tutorial in Elementary Particle Physics. Topics normally preceded by courses 226A, 226B, and 230B.

292. Research Tutorial in Spectroscopy. May be taken (De 2 to 4 units).

293. Research Tutorial in Solid State Physics. May be taken (De 2 to 4 units).

294. Research Tutorial in Plasma Physics. May be taken (De 2 to 4 units).

295. Research Tutorial in Solid Earth Physics. (De 2 to 4 units).

296. Seminar in Plasma Physics. (2 to 3 units).

297. Seminar in Plasma Physics. (2 to 3 units).

298. Seminar in Plasma Physics. (2 to 3 units).

299. Seminar in Elementary Particle Physics. (2 to 3 units).

50L Cooperative Program. (1 course).

599. Doctoral Research and Writing. (2 to 3 courses).

PHYSIOLOGY

(120 units)

Francisco J. Bezanilla, Ph.D., Professor of Neuroscience in Physiology.
Allan. J. Brady, Ph.D., Professor of Physiology.
Jennifer S. Buchwald, Ph.D., Professor of Physiology.
Michael H. Chase, Ph.D., Professor of Physiology in Residence.
Sergio Cals, Ph.D., Professor of Physiology.
Jared M. Diamond, Ph.D., Professor of Physiology.
George Eiseman, M.D., Professor of Physiology.
Alan D. Grinnell, Ph.D., Professor of Physiology and Biology.
Morton I. Grossman, M.D., Ph.D., Professor of Physiology and Medicine.
Susumu Hagiwara, M.D., Ph.D., Professor of Physiology and Dr. Eleanor L. Leslie Professor of Neuroscience.
Glenn A. Langer, M.D., Professor of Cytology in Physiology and Medicine (Vice Chairman of the Department).
John Mc D. Tormey, M.D., Professor of Physiology.
Bernie M. Wenzel, Ph.D., Professor of Physiology and Psychiatry.

Ernest M. Wright, M.D., Professor of Physiology.
Richard H. Warner, Ph.D., Associate Professor of Physiology.
Arthur Penkoff, Ph.D., Adjunct Associate Professor of Physiology and Biomechanics.
Brian Whipp, Ph.D., Associate Professor of Physiology.
Joy Frank, Ph.D., Assistant Professor of Physiology.
Sally Krause, Ph.D., Assistant Professor of Physiology.
Michael S. Litsynsky, Ph.D., Assistant Professor of Physiology.
Julio Vergara, Ph.D., Assistant Professor of Physiology.

Hirohara Noja, M.D., Ph.D., Adjunct Professor of Anatomy and Physiology.
William D. Odell, Ph.D., Professor of Medicine and Physiology in Residence.
Daniel H. Simmons, M.D., Ph.D., Professor of Medicine and Physiology.

Mary C. Derby, Ph.D., Professor of Nursing.

Mary A. B. Brazier, Ph.D., D.Sc., Emeritus Professor of Anatomy and Physiology in Residence.

Charles Code, M.D., Ph.D., Emeritus Professor of Medicine and Physiology in Residence.

John Field, Ph.D., Emeritus Professor of Medical History and Physiology.

Morton I. Grossman, M.D., Ph.D., Emeritus Professor of Physiology.

Douglas Junge, Ph.D., Associate Professor of Oral Biology and Physiology.
Admission to Graduate Status

Candidates for admission to graduate status in the Department of Physiology must conform to the general admission requirements set by the Graduate Division and have received the bachelor's degree in a biological or physical science or in the premedical curriculum. Candidates must also present to the Department the scores achieved on the Graduate Record Examination (both the Aptitude Test and the Advanced Test). In general, at the time of admission, students must have completed courses in mathematics through calculus (equivalent to Mathematics 31A-31B-31C) and Physical Chemistry. Ideal course preparation for graduate study in the Department should also include 12 quarter units of basic biology, 8 quarter units of basic chemistry, and 16 quarter units of biology or zoology (including comparative vertebrate anatomy). 

Student's Responsibilities

Prospective candidates for graduate study must conform to the general requirements set by the Graduate Division. Careful study should be made of the requirements set by Physics and Chemistry, and Biology and Zoology.

Master of Science Degree

Students entering graduate study in the Department of Physiology will normally be expected to pursue the M.S. degree only if they are accepted in their junior or senior year. Exceptional cases may be considered for the Master of Science Degree. In those cases, candidates for the M.S. degree must meet the general requirements set by the Graduate Division for this degree. See the Graduate Division.

Requirements for the Doctor's Degree

General University Requirements. Candidates for the doctorate in physiology must conform to the general requirements set by the Graduate Division for this degree. See the Graduate Division.

Departmental Requirements. Course requirements ordinarly are: (1) Physiology 201, 202; (2) Physiology 205; (3) Physiology 206; (4) Physiology 213, 214, 215; (5) Physiology 230A-230B-230C; (6) Biological Chemistry 101A-101B-101C or Chemistry 153 (Biochemistry); (7) Biology 154; (8) Introduction to APL Programming.

At the completion of the first year of study students will normally be required to take the Department Written Exam at which time the student will be required for continuation of his studies toward the Ph.D. degree. 2) recommended for further remedial study or 3) terminated. Near the completion of the second year of studies the instructor may request that the student take a Departmental Oral Exam (optional) or waive this exam and proceed directly to the University Qualifying Oral Examination (mandatory) administered by the Graduate Division.

The student should begin his research work as soon as he has completed his basic program and selected a sponsor.

Upper Division Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Neuromuscular and Cardiovascular Physiology</td>
<td>18 courses</td>
</tr>
<tr>
<td>200</td>
<td>Transport Across Biological Membranes</td>
<td>Consent of instructor</td>
</tr>
<tr>
<td>201</td>
<td>Mathematics Applied to Problems in Physiology</td>
<td>Consent of instructor</td>
</tr>
<tr>
<td>202</td>
<td>Permeability of Biological Membranes to Ions</td>
<td>Consent of instructor</td>
</tr>
<tr>
<td>205</td>
<td>Physical Chemistry of Membrane and Cellular Systems</td>
<td>Consent of the instructor</td>
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</tbody>
</table>

Mr. Donald B. Lindsley, Ph.D., Emeritus Professor of Physiology and Psychology. 

Professor of Anesthesiology and Physiology in Residence. 

Oscar U. Schmied, M.D., Lecturer in Physiology. 

Jesse W. O'Dell, Lecturer in Physiology.
BEL LA VERN, PD. Political Science.}

**POLITICAL SCIENCE**

( DeVere Office 4289 Bunche Hall)

**Han C. Baarwal, Ph.D., Professor of Political Science.**

**Richard D. Baun, Ph.D., Professor of Political Science.**

**Irving Bernstein, Ph.D., Professor of Political Science.**

**John C. Bollum, Ph.D., Professor of Political Science.**

**David T. Catnell, Ph.D., Professor of Political Science.**

**James S. Coleman, Ph.D., Professor of Political Science.**

**Matteo Degan, Doctor in Letters, Professor of Political Science.**

**Ernest A. Engelbert, M.P.A., Ph.D., Professor of Political Science.**

**Leonard H. Green, Ph.D., Professor of Political Science.**

**Robert C. Fried, Ph.D., Professor of Political Science.**

**Edward Gonzalez, Ph.D., Professor of Political Science.**

**Melvin H. Kugler, Ph.D., Professor of Political Science.**

**Malcolm H. Kerr, Ph.D., Professor of Political Science.**

**Romuald Kowalski, Ph.D., Professor of Political Science.**

**Andrzej A. Kuc, Ph.D., Professor of Political Science.**

(Chairman of the Department).

**Michael F. Lohrchie, Ph.D., Professor of Political Science.**

**Dwaine Marwick, Ph.D., Professor of Political Science.**

**Charles R. Nixon, Ph.D., Professor of Political Science.**

**David C. Rapport, Ph.D., Professor of Political Science.**

**John C. Rye, Ph.D., Professor of Political Science.**

**David O. Sears, Ph.D., Professor of Political Science and Psychology.**

**John R. Simon, Ph.D., Professor of Political Science.**

**Richard L. Slay, Ph.D., Professor of Political Science.**

**Ezra N. Stuleman, Ph.D., Professor of Political Science.**

**David O. Wilkinson, Ph.D., Professor of Political Science.**

**David A. Wilson, Ph.D., Professor of Political Science.**

**Charles E. Young, Ph.D., Professor of Political Science.**

**Winston W. Crouch, Ph.D., Emeritus Professor of Political Science.**

**David C. Farrelly, Ph.D., Emeritus Professor of Political Science.**

**J. A. C. Grant, Ph.D., LL.D., Emeritus Professor of Political Science.**

**Foster H. Sherwood, Ph.D., LL.D., Emeritus Professor of Political Science.**

**H. Arthur Steiner, Ph.D., Emeritus Professor of Political Science.**

**Richard E. Ashcraft, Ph.D., Associate Professor of Political Science.**

**L. Blair Campbell, Ph.D., Associate Professor of Political Science.**

**Robert D. Fanton, L.L.B., Ph.D., Associate Professor of Political Science.**

**Foster H. Sherwood, Ph.D., Emeritus Professor of Political Science.**

**Douglas S. Hobbs, Ph.D., Associate Professor of Political Science.**

**Stephen M. Krasner, Ph.D., Associate Professor of Political Science.**

**Karen J. Orren, Ph.D., Associate Professor of Political Science.**

**Susan Kranz Paulson, Ph.D., Associate Professor of Political Science.**

**Duane E. Smith, Ph.D., Associate Professor of Political Science.**

**Leo M. Snowiss, Ph.D., Associate Professor of Political Science.**

**Steven L. Spiegel, Ph.D., Associate Professor of Political Science.**

**Victor Wolfenstein, Ph.D., Associate Professor of Political Science.**

**Ciro Zoppo, Ph.D., Associate Professor of Political Science.**

**Thad A. Brown, Ph.D., Assistant Professor of Political Science.**

**Paul Jaffer, Ph.D., Assistant Professor of Political Science.**

**John R. Petrock, Ph.D., Assistant Professor of Political Science.**

**Raymond A. Rocco, Ph.D., Assistant Professor of Political Science.**

**Stephen L. Skowronek, Ph.D., Assistant Professor of Political Science.**

**Arthur A. Stein, Ph.D., Assistant Professor of Political Science.**

**James G. Fix, B.S., Adjunct Professor of Political Science.**

**Pierre-Michel Fontaine, Ph.D., Acting Associate Professor of Political Science.**

**Marvin Hoffenberg, M.A., Professor of Political Science in Residence.**

**Laurie M. Lake, Ph.D., Adjunct Assistant Professor of Political Science.**

**Robert C. Welch, M.A., Acting Assistant Professor of Political Science.**

**Goals of the Undergraduate Program in Political Science**

The undergraduate program aims to provide an understanding of basic political processes and institutions as these operate in different national and cultural contexts, of the interaction between national states, of the changing character of the relations between political and governmental institutions, and of 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 and should be addressed to (I) preparation for graduate work in Political Science, Public Administration, Law, and other professional fields, and (II) the student preparing for specialized roles in political and public organizations.

Inquiries about the program and any possible special arrangements should be addressed to the Undergraduate Counselor, Department of Political Science.

**Preparation for the Major**

Two lower division courses (8 units): Political Science 1 and Political Science 2, 3, 4, or 6. These courses must be taken for a letter grade.

**The Major**

**Requirements I.** For those students who had less than 84 quarter units at the beginning of the fall quarter 1975 the following requirements must be met (all other students, see Requirements II below).

Ten upper division political science courses (for a total of 40 units) numbered from 102 to 199 must be taken for a letter grade. The student is also required to complete 4 upper division courses (for a total of 16 units) in one or more of the following social sciences: Anthropology, Communication Studies (only 160), Economics, Geography, History, Management (only 190A, 190C, 190D, 190E), Psychology (except 115, 116, 117), and Sociology. These courses must also be taken for a letter grade. In addition to requirements for graduation prescribed by the College of Letters and Science, the student is expected to maintain a 2.0 overall grade point average in all upper division political science courses. Upper division political science courses are organized into six fields: (I) Political Theory. (II) International Relations. (III) Political Administration and Local Government. (IV) Public Law, and (VI) Public Administration and Local Government.

In fulfilling the requirement of 10 upper division political science courses, the student must satisfy the following: A concentration in one field by completing at least 12 upper division courses in that field. It is recommended that one of these courses be an Undergraduate Seminar, 197A – F. (See field concentration requirements below).

A distribution of two courses in each of two other fields (4 courses).

**Political Science 110. Introduction to Political Theory, is required of all political science majors. The Political Science 110 requirement may be met by taking two quarters of the Political Science 111 series. Political Science 110 may count for either the concentration or the distribution requirement.**

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: Political Science 110 and 3 additional courses in Field I.

(II) International Relations: Political Science 2 and any 4 upper division courses in Field II. Four courses from 175A-175B may be counted as one of the 4 courses in Field II. Only one of the defense studies courses — 138A, 138B, and 138C — may be counted toward field concentration requirement.

(III) Policy: Any four courses in Field III. Political Science 182A may also be counted toward concentration in this field. Political Science 3 is recommended as the second lower division course.

(V) Public Law: Political Science 170 or 171 and any 3 additional courses in Field V. Political Science 170 and 171 have
is a prerequisite for Political Science 172A or 172B. Political Science 117 or 187 — but not more than one of them may also be counted toward concentration in this field.

(VI) Public Administration and Local Government
Any 4 courses in Field VI. Political Science 138C, 173 or 174 — but not more than one of them — may also be counted toward concentration in this field.

Note: No course may be counted toward both concentration and distribution requirements. Also, courses numbered 119, 139, 149, 169, and 189 may be counted toward concentration in this field. These courses may be applied toward the field concentration requirement. No more than 3 of these courses may be applied toward the major.

Political Science 198 and 199 may not apply to fulfill either the concentration or distribution requirement.

Requirements II. Those students who had more than 84 quarter units at the beginning of the fall quarter 1975 are required to complete nine upper division political science courses (for a total of 36 units) numbered from 100 to 199 for a letter grade. In addition, the student is required to complete 4 upper division social science courses (for a total of 12 units) as outlined in Requirements I. These courses may also be used toward the minor.

Each political science major will be required to complete successfully Political Science 110, Introduction to Political Theory. Each major must also complete at least one course in political science numbered 100 or higher, including at least three (3) upper division courses in that field. These courses count toward satisfaction of the requirement for nine upper division courses in the department. These courses count toward fulfilling the major, but not more than one of them may also be counted toward concentration in this field. These courses count toward fulfillment of either the concentration or the distribution requirement. Political Science 197 and 199 are not applicable to fulfillment of either the concentration or the distribution requirement. Only one of the defense studies courses — 138A, 138B, and 138C — may be counted toward field distribution requirements.

Specific requirements for field concentration are as follows:
(I) Political Theory: Political Science 110 and any two courses in Field I; (II) International Relations: Political Science 2 and any 3 courses in Field II. Four units from 175A-175B may be counted as one of the three courses in Field II; (III) Politics: Any 3 courses in Field III. Political Science 110 counts as one course in Field I and counts toward concentration in this field; (IV) Comparative Government: Political Science 168 and any 2 additional courses in Field IV. Political Science 115, 188A, or 188B — but not more than one of them — may also be counted toward concentration in this field; (V) Public Law: Political Science 170 or 171 and any 2 additional courses in Field V. Political Science 117 or 187 — but not more than one of them — may also be counted toward concentration in this field; (VI) Public Administration and Local Government: Any 3 courses in Field VI. Political Science 138C, 173, or 174 — but not more than one of them — may also be counted toward concentration in this field.

Course 119, 139, 149, 169, 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.

No course may be counted toward both concentration and distribution requirement.

Undergraduate Seminars
Each quarter the department will offer a series of seminars, limited to 20 students, offered in each field and open to students studying under either Requirements I or II. The prerequisites will be 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.

The courses will be numbered: 197-A, 197-B, International Relations, 197-C, 197-D, Comparative Politics, 197-E, Public Law, and 197-F. Public Administration. These courses may count for either the concentration or distribution requirement and students who qualify are encouraged to take them.

The Honors Program
Qualifications: Completion of an undergraduate seminar; a 3-40 grade-point average at the upper division level in political science; eligibility for College of Letters and Science honors status.

The Program: Students wishing to qualify for graduation with Departmental Honors must maintain a 3.40 grade point average in upper division political science and complete the following: (1) A one-year seminar (Political Science 198A, 198B, 198C). The first quarter of the seminar, Political Science 198A, is a general seminar on political science and involves research. The second and third quarters, P.S. 198B and 198C, are devoted to writing a senior thesis under the direction of a faculty member. The honors thesis will be read by the respective field committees and judged for its quality and graded as to high honors, honors, pass, no pass, which is equivalent to A, B, C, F on the grade scale. (2) Eight upper division courses, excluding the courses 119, 139, 149, 169, 179 and 189 as follows: Political Science 110, three courses in one field and four additional courses, two in each of two other fields. These courses plus the one-year seminar will comprise the upper division courses required for Honors in Political Science. (3) Four upper division courses in the social sciences other than political science.

Note: Those students who are studying under Requirements II may take two courses from the 197-A-F Undergraduate Seminars series for Honors credit. The instructor will designate whether the student's work in the course qualifies for Honors.

Related Curricula
For the curricula in international relations and public service, see the College of Letters and Science.

The Graduate Program
The Department offers M.A. and Ph.D. degrees in political science. There is no Master of Public Administration program offered at this time. Students wishing to qualify for graduate study in political science must take the M.A. examination, students wishing to qualify for the Ph.D. must take the M.A. examination and the Ph.D. examination.

Graduate Studies Committee
The Committee will be designated by the Department and the Graduate Studies Committee. The Graduate Studies Committee will evaluate the student's knowledge of political science and in addition to the requirements of the Graduate Studies Committee, the Committee will make recommendations to the student individually.

The M.A. Program
The Department normally operates under Plan II (a written examination in one field and an oral examination covering three fields), although Plan I (written examinations in two fields and oral examinations in three fields) may be followed with the approval of the Graduate Studies Committee.

Course Requirements: A student must take a minimum of five graduate courses in political science at UCLA distributed among three fields of study, and four other courses (normally in the social sciences or related areas) to fulfill the M.A. requirements. Lower division courses may not be used for credit. The course P.S. 596 will not normally be counted toward the five graduate course requirement for the M.A. The course P.S. 597 cannot be used for credit for any of the course requirements for either the M.A. or the Ph.D.

For information concerning the transferring of credit for graduate work completed at another university or another campus of the University of California, students should consult the department's graduate information booklet.

M.A. Examination: By the end of the fourth quarter of graduate study, the M.A. candidate will take a written examination in one of the six fields of Political Science and a written examination in one of the three fields for the M.A. oral examination. The written examinations consist of a minimum of five questions in each field. The written examinations may also be counted toward concentration or distribution requirements and students who qualify are encouraged to take them.

M.A. Thesis: Students wishing to write an M.A. thesis (Plan I) instead of taking the M.A. comprehensive examinations (Plan II) must select a faculty committee to supervise the thesis. This committee must consist of three faculty members, two from Political Science and one from another UCLA department, and must be approved by the Graduate Studies Committee. The written examination must be submitted to and approved by the thesis committee prior to the end of the third quarter of residence. Students opting for the thesis plan will not be required to take the written examination (Plan II) and must take the comprehensive examination (Plan I).

Thesis Plan: Students opting for the thesis plan will: (1) take the M.A. examination; (2) choose three fields for their thesis; (3) the 250 through 270 series of seminars.

The Ph.D. Program
An M.A. or its equivalent is a prerequisite for admission to the Ph.D. program. Students entering UCLA with an M.A. in political science from another university must pass the comprehensive examination and oral examinations in fields in political science. Any two fields from the following list must be satisfied satisfactorily by the basic graduate courses in four fields (three written examination fields and one writeoff field). Each Political Science field committee will specify the courses the student must take and the student is required to pass the preliminary examination in one field. In addition to these basic courses, a Ph.D. candidate must satisfy a two-quarter research requirement in each of two fields in political science. The research requirement is defined by each individual field.

NOTE: For key to symbols, see page 74.
The P.S. 203A-B-C sequence may be used in the Ph.D. evaluation sequence for the write-off field only.

For students majoring in political science. This course may be used to fulfill one of the two preliminary requirements for the Preparation for the Major.

The Staff

110. Introduction to Comparative Government. Lecture, three hours; discussion, one hour. Prerequisites: course 101A, and 104A. An introduction to the principles and problems of government with special emphasis on contemporary states, with emphasis on the major European governments. This course may be used to fulfill one of the two course requirements for the Preparation for the Major.

The Staff

111A. History of Political Thought: Ancient and Medieval Political Theory. An introduction and critical analysis of the major political philosophers from Plato to Machiavelli. The Staff

111B. History of Political Thought: Early Modern Political Theory. An introduction and critical analysis of the major political philosophers and schools from Hobbes to Bentham. Mr. Ashcraft

111C. History of Political Thought: Late Modern and Contemporary Political Theory. An introduction and critical analysis of the major political philosophers and schools from Hegel to the present. Mr. Ashcraft, Mr. Wolfenstein

112. Nature of the State. A systematic analysis of modern concepts and problems of political association. The Staff

113. Problems in Twentieth Century Political Theory. A study and interpretation of theorists who have focused their analyses on the social and political problems of the twentieth century. Mr. Rocco

114A-114B. American Political Thought. Prerequisites: course 114A; or consent of instructor is prerequisite to 114B.

114A. An introduction and critical analysis of American political thinkers from the Puritan period to 1865.

114B. An introduction and critical analysis of American political thinkers from 1865 to the present.

Mr. Smith

115. Theories of Political Change. Prerequisite: course 110 or consent of the instructor. A critical examination of theories of political change, the relation of political change to changes in economic and social systems, and the relevance of such theories for the experience of both western and nonwestern societies. This course may be counted in either Field I or IV.

Mr. Lofchie, Mr. Nixon

116. Marxism. A critical analysis of the origins, nature, and development of Marxist political theory. Mr. Karl Pollock

117. Jurisprudence. Development of law and legal systems; consideration of fundamental legal concepts; contributions and influence of modern schools of legal philosophy in relation to law and government. This course may be counted in either Field I or V.

Mr. Gerstein

119A-119Z. Special Studies in Political Theory. Prerequisites: course 110, one additional course in Field I, and consent of the instructor. Intensive examination of one or more special problems appropriate to political theory. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

The Staff

FIELD I. 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, and special emphasis on American political problems.

Mr. Jabber, Mr. Spiegel, Mr. Stein

121. Studies in Formulation of American Foreign Policy. A study of the formation of American foreign policy with respect to individual cases. Special topics will be announced in the schedule of classes each quarter.

The Staff

122. International Organization and Administration. A general survey of the institutions, political and administrative, of international organization, with emphasis on the United Nations. The Staff

126. Peace and War. Theory and research on the causes of war and the conditions of peace.

Mr. Wilkinson

127. The Atlantic Area in World Politics. A contemporary survey of the foreign policies of the North Atlantic countries and of cooperative efforts to attain political, economic, and military integration on a regional basis.

Mr. Zoppo

128. The Soviet Sphere in World Politics. A contemporary survey of the foreign policies and aspirations of the Soviet Union and other states in the Soviet bloc; analysis of content and effects of Communist doctrine affecting relations between the Soviet and democratic spheres.

Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

131. Latin American International Relations. The major problems of Latin-American international relations and organization in recent decades.

Mr. Gonzalez, Ms. Purcell

132A-132B. International Relations of the Middle East. Prerequisite: course 132A is prerequisite to 132B, or consent of instructor for 132B.

132A. Contemporary regional issues and conflicts, with particular attention to inter-Arab politics, the Arab-Israel conflict, and developments in Iran. 132B. Role of the Great Powers in the Middle East, with emphasis on American, Soviet and West European policies since 1945.

Mr. Jabber

135. International Relations of China. The relations of China with its neighbors and the other powers, with emphasis on contemporary interests and policies of China vis-a-vis the United States and the Soviet Union.

Mr. Baum

136. International Relations of Japan. The foreign policies of Japan, and the interests and policies of other countries, particularly the United States, as they relate to Japan.

Mr. Baerwald

137. International Relations Theory. An examination of various theoretical approaches to international relations and their application to a number of historical cases and contemporary problems.

Mr. Kranser, Mr. Stein


Mr. Jervis

138B. The Conduct of Modern War. A study of recent and contemporary wars with special emphasis on political and strategic problems.

The Staff

138C. Military Policy and Organization. A study of the institutional and policy framework in the national military field. This course may be counted in either Field II or IV.

Mr. Ries

139A-139Z. Special Studies in International Relations. Prerequisite: Two courses in Field II, or course 139Z, or consent of instructor. Essentially the same course as 139A-139Z with special consideration of the instructor. Intensive examination of one or more special problems appropriate to international relations. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement.

See also course 182A.

FIELD IV. COMPARATIVE GOVERNMENT

152. British Government. The government and politics of the United Kingdom; the British constitution, parliament, parties and elections, foreign policy, the administrative problems, and local governments.

The Staff

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 developments in post-war Germany and West Germany.

The Staff

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.

The Staff

156. The Government of the Soviet Union. An intensive study of the political and institutional organization of the Soviet Union and its component parts, with special attention to contemporary political issues, as well as party and governmental structures.

Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

157. Governments of Eastern Europe. A study of the political and governmental organization of the Communist countries of Eastern and Central Europe (exclusive of the U.S.S.R.) with special reference to the institutions, practices and ideologies in helping to determine intergovernmental relations.

Mr. Pierson

159. Chinese Government and Politics. Organization and structure of Chinese government with particular attention to the policies, doctrines, and institutions of Chinese Communism; political problems of contemporary Chia.

Mr. Brown, Mr. Petrock

160. Japanese Government and Politics. The structure and operation of the contemporary Japanese political system, with special attention to domestic political forces and problems.

Mr. Baerwald


The Staff

162. Government and Politics in South Asia. The political experiences and institutions of the Indian subcontinent since 1947, with particular attention to the Republic of India, but also with an eye to Pakistan and Ceylon.

Mr. Sisson

163A. Government and Politics in Latin America. (Formerly numbered 168A.) A comparative study of governmental and political development, organization and practices in the states of Middle America.

Mr. Gonzalez, Ms. Purcell

163B. Government and Politics in Latin America. (Formerly numbered 168B.) A comparative study of governmental and political development, organization and practices in the states of South America.

Mr. Purcell

164. Government and Politics in the Middle East. A comparative study of government in the Arab states, Turkey, Israel and Iran.

Mr. Jabber, Mr. Kerr


Mr. Kerr

166A-166B-166C. Government and Politics in Sub-Saharan Africa. Patterns of political change in Africa. Approaches to the study of comparative politics in Africa. The concepts and methodologies of comparative analysis. 168L or 168S can be applied no more than twice toward the field concentration requirement.

Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

166A. Western Africa.

166B. Eastern Africa.

166C. Southern Africa. Mr. Leftie, Mr. Sklar

167. Ideology and Development in World Politics. A comparative study of the major modes of political and economic development in the world today. Relations between industrial and non-industrial societies as examined in light of the current debate about imperialism.

Mr. Sklar

168L. Comparative Political Analysis. Lecture. Prerequisites: two courses in Field IV, or Political Science 3 and one course in Field IV. Major emphasis on the study of comparative research design; Concepts and methodology of comparative analysis. 168L or 168S is required of all students concentrating in Field IV. This course will be conducted as a lecture course. Either 168L or 168S can be taken for credit: credit will not be given for both.

The Staff

168S. Comparative Political Analysis. Seminar. Prerequisites: two courses in Field IV, or Political Science 3 and one course in Field IV. Consent of instructor. Major approaches to the study of comparative politics. Concepts and methodology of comparative analysis. Either 168L or 168S is required of all students concentrating in Field IV. This course will be conducted as a seminar. Either 168L or 168S can be taken for credit: credit will not be given for both.

The Staff

NOTE: For key to symbols, see page 74
169A-169Z. Special Studies in Comparative Government. Prerequisites: Two courses in Field IV, or course 3 and one course in Field IV, or consent of the instructor. Intensive examination of one or more special problems appropriate to comparative government. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

The Staff

See also Courses 117, 188A, 188B.

FIELD V. PUBLIC LAW

170. The Anglo-American Legal System. Lecture, four hours; discussion, one hour. Evolution of the English common law courts and their legal system, with emphasis on the development of the basic concepts of law which were received from that system in its development for the remainder of the world. Either this course or Political Science 171 is required of all students concentrating in Field V.

Mr. Gerstein

171. The Supreme Court. Lecture, four hours, discussion, one hour. 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 associated current events will be utilized. Either this course or Political Science 170 is required of all students concentrating in Field V.

Mr. Gerstein, Mr. Hobbs

172A. American Constitutional Law. Prerequisite: course 170 or 171, or consent of the instructor. Intensive examination of one or more special problems in the relationship between government and property. Mr. Gerstein, Mr. Hobbs

172B. American Constitutional Law. Prerequisite: course 170. The protection of civil and political rights and liberties under the Constitution. Mr. Gerstein, Mr. Hobbs

173. Government and Business. The nature of the corporation; the regulation of competition; government promotion of economic interests; regulation of industries clothed with public interest; government ownership and operation. This course may be counted in either Field V or VI.

Mr. Bernstein, Ms. Orren

174. Government and Labor. The labor force and the nature of the trade union; regulation of labor relations. This course may encourage full employment and to mitigate unemployment: protective labor legislation. This course may be counted in either Field V or VI.

Mr. Bernstein

175A-175B. International Law. A study of the nature and place of international law in the conduct of international relations. 175A can be offered in consecutive terms or simultaneously. If offered consecutively, 175A is prerequisite to 175B, and a student may take 175A alone for four units of credit. If they are offered simultaneously, a student must take both courses for 8 units. A maximum of 4 units (1 course) may be counted in Field IV. The Staff

175A-175Z. Special Studies in Public Law. Prerequisites: course 170 or 171, one additional course in Field V, any special requirements, and consent of the instructor. Intensive examination of one or more special problems appropriate to public law. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major. The Staff

See also Courses 117, and 187.

FIELD VI. PUBLIC ADMINISTRATION AND LOCAL GOVERNMENT

180. State and Local Government. A study of state political systems, including their administrative and local sub-systems; intergovernmental relationships; and their policy outputs, with specific attention being given to California. Mr. Bollens

181. Introduction to Public Administration. An introduction to the study of the processes and structures designed to convert citizen demands and public decisions into collective action and achievement. Particular attention is devoted to the capacity of American administrative systems to respond effectively to citizen expectations with the constraints of due process. Mr. Fried

182A. Metropolitan Area Government and Politics. An overview of the political and social organization, decision-making processes, policy problems, and conflicts of metropolitan areas and their central cities and suburbs. Attention is also given to the impact on these areas of the national and state political systems and racial, ethnic, and protest movements. This course may be counted in either Field III or VI.

182B. City Government and Politics. Prerequisite: course 182A or consent of the instructor. Intensive analysis of contemporary urban governance in the United States. Emphasis is given to such student participatory activities as field-work, 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 other international governmental and non-governmental organizations, including the distinctive characteristics of organization and management selection of personnel, and methods of financing. Mr. Bollens

185. Public Personnel Administration. The process of formulating and administering public personnel policies; concepts and principles utilized in selected governmental personnel systems. Focus will be primarily upon governmental systems in the United States (national, state, local, foreign service, military) but also upon international governmental and selected other governmental systems. The Staff

186. National Policy and Administration. A study of the major policies and programs of the national government and their administration as illustrated in such areas as national defense, social welfare, agriculture, etc. Particular attention will be paid to the role of the President and other administrators in formulating public policy and in maintaining a responsible bureaucracy.

Mr. Engelbert, Mr. Fried

187. Law and Administration. Legal controls of administration action. Substantive and procedural limitations on governmental discretion imposed by legislation, executive and judicial agencies and the sources of legal powers of administration both within and without these limits. This course may be counted in either Field V or VI.

The Staff

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. This course may be counted in either Field IV or VI.

Mr. Suleiman

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 public political development. This course may be counted in either Field IV or VI.

The Staff

189A-189Z. Special Studies in Public Administration. Prerequisites: Two courses in Field VI and consent of the instructor. Intensive examination of one or more special problems appropriate to public administration. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major. The Staff

See also Courses 117, and 187.

190. Theories of Organization. Prerequisite: courses 181 or 186. An examination of the theoretical frameworks for studying public and private bureaucracies, with emphasis upon ideologies, values, behavioral characteristics, and concepts of organization.

Mr. Engelbert

191. Urban and Regional Planning and Development. A comparative study of governmental processes involved in the planning and development of urban and regional communities and areas.

Mr. Engelbert, Mr. Hoffenberg

See also Courses 183C, 173, and 174.

UNGROUNDED

197A-197F. Seminars for Majors. Prerequisites: major in political science and upper division standing; a 3.0 grade-point average in upper division level in political science courses; eligibility for upper division level in political science courses; and two upper division courses in the field in which the seminar is offered. These courses may count for distribution or concentration requirements.

197A. Political Theory. May be concurrently scheduled with Political Science 198B, section 1.

197B. International Relations. May be concurrently scheduled with Political Science 197B, section 2.

197C. Politics. May be concurrently scheduled with Political Science 224E.

197D. Comparative Government. May be concurrently scheduled with Political Science 250J.

197E. Public Law.

197F. Political Administration and Local Government. Seminars may be offered concurrently with various graduate courses. May be concurrently scheduled with Political Science 218B-218C.

The Staff

198A-198B-198C. Honors Seminar and Thesis. Prerequisites: one course in the 197 series; a 3.0 grade-point average at the upper division level in political science courses; eligibility for upper division level in political science courses; and consent of Letters and Science Honors status. Political Science 198A is prerequisite for 198B, and Political Science 198B is prerequisite for 198C.

Political Science 198A-198B-198C is a one-year honors seminar and thesis-writing sequence. Students entering 198A 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.

During the first quarter (198A) 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 and a research draft.

Class sessions in 198A will 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 will also meet privately with the instructor to discuss the progress of their research. The second and third quarters (198B-198C) are devoted to writing an honors thesis under the direction of the faculty. The honors thesis will be read by the appropriate field committee and graded High Honors, Honors, or No Honors.

The Staff

199. Readings in Political Science. (5 to 11 course units) Prerequisites: Field IV. May be offered concurrently with Political Science 198A-198C; overall grade-point average of 3.0, consent of the instructor and approval by the Chairman of the Department. May be repeated for a total of four full courses. Individual study. See additional information in statement for requirements in the major of political science.

The Staff

Graduate Courses

GENERAL

203. Introduction to Political Inquiry.
## Substantive Courses

### 221. Selected Texts in Political Theory
A critical examination of major texts in political theory with particular attention to their philosophic system, their relations to the contemporary political and intellectual currents, and the importance of the system for present-day political analysis. May be concurrently scheduled with Political Science 197C.

The Staff

### 222. Selected Topics in Political Theory
A critical examination of a major problem in political theory. May be concurrently scheduled with Political Science 197A, sec. 1.

The Staff

### 224A-224K. Studies in Politics

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>224A</td>
<td>Polity and Economy. An analysis of the theoretical and practical relationships between economic analysis, topics include personality, institutions. Study will include the development and political implications of the market system, banking and finance, corporate enterprise, and organized labor.</td>
</tr>
<tr>
<td>224B</td>
<td>Political Recreation. A critical evaluation of the leadership literature concerned with the backgrounds of public men, and with the screening and sponsoring mechanisms affecting their careers and political perspectives. May be concurrently scheduled with 197C.</td>
</tr>
<tr>
<td>224C</td>
<td>Politics and Society. The application of selected classical and contemporary sociological theories to politics. May be concurrently scheduled with Political Science 197C.</td>
</tr>
<tr>
<td>224D</td>
<td>Group Theories of Politics. Critical appraisal of &quot;group theory&quot; approaches to the study of political decision-making, with special attention to empirical research problems and findings.</td>
</tr>
<tr>
<td>224E</td>
<td>Legislative Behavior. The analysis of the major approaches to the study of representative institutions, with special attention to the assumptions, concepts, methods, and theoretical implications associated with each approach. May be concurrently scheduled with Political Science 197C, sec. 1.</td>
</tr>
<tr>
<td>224F</td>
<td>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 197C.</td>
</tr>
<tr>
<td>224G</td>
<td>Political Psychology. (Same as Psychology 220A.)</td>
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<tr>
<td>224H</td>
<td>Psychology 220A, or consent of the instructor. A survey of psychological approaches to political analysis, with special attention to issues of individual and group behavior, experimental social psychology, and cognitive psychology.</td>
</tr>
<tr>
<td>224I</td>
<td>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 Political Science 197B, sec. 2.</td>
</tr>
<tr>
<td>224J</td>
<td>Political Parties. A critical examination of the literature on political parties and party organization. Special attention will be given to political functions, electoral campaigns, and party cadres.</td>
</tr>
<tr>
<td>228A</td>
<td>Personnel and Human Relations. An analysis of the policies, processes, organizations, and interpersonal relationships involved in managing the public services.</td>
</tr>
</tbody>
</table>

### 228C. Political and Administrative Aspects of Planning
A study of the political constraints on and support for effective planning. To be explored are the relationships between 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

### 228D. The National Administrative System
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. Mr. Engelbert

### 228E. State Administrative Systems
An analysis of state administrative systems, their local branches, their states, and their outputs. May be concurrently scheduled with Political Science 197F. Mr. Fried

### M229. Urban Government
(Same as Architecture and Urban Planning M209C.) An analysis of the policies, processes, interrelations, and organization of governments in heavily populated areas. May be concurrently scheduled with Political Science 197F. Mr. Bollens

# Comparative Development Administration

An analysis of the development of administration and the development of political and administrative institutions, with special attention to ecology. Comparisons are made both between countries and within countries. Mr. Fried, Mr. Sisson

### 231A-231D. Studies in International Relations

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>231A</td>
<td>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 Political Science 197B.</td>
</tr>
<tr>
<td>231B</td>
<td>National and International Defense Problems. This 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 Political Science 138A, which, however, is not a prerequisite. May be concurrently scheduled with Political Science 197B.</td>
</tr>
<tr>
<td>231C</td>
<td>International Law and Organization. This course examines 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 evolving in depth.</td>
</tr>
<tr>
<td>231D</td>
<td>International Relations Theory. An introduction to contemporary problems in international relations theory. May be concurrently scheduled with Political Science 197B.</td>
</tr>
</tbody>
</table>

### 233C. Functional Political Analysis

An analysis of the development and change of political institutions, with special attention to theories of organization and personality. Mr. Stein, Mr. Wilkinson

### 235. Selected Topics in Comparative Politics

Mr. Stein, numbered 225) A critical examination of a major problem in comparative politics. The Staff

### 236A-236B. The Foundations of Representative Government
An analysis of the factors affecting the development and functions of representative institutions in the United States and selected political systems of Africa, Asia, and Latin America. Comparative Government or Politics field credit.

### 236A. An Introduction to the Literature on the Development of elective institutions and their performance. The course takes an introductory approach, emphasizing historical as well as contemporary cases and modes of analysis.

### 236B. Prerequisite, either 236A or consent of the instructors. A research seminar devoted to the analysis of particular problems and countries.

Mr. Sisson, Mr. Snowiss

### 238A. Evolution of Anglo-American Law Books. Surviving early records. Case reporting from the year books to the modern reports. Legal treatments

NOTE: For key to symbols, see page 74

## Political Science 197E

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-assisted interpretation of political data.

The Staff

## Quantitative Application

A survey of quantitative research techniques and their application to the study of political phenomena. May be concurrently scheduled with Political Science 102.

Mr. Marvick, Mr. Petrocik

### 211. Political Theory
An analysis of the central problems of political inquiry and their relation to political philosophy.

Mr. Marvick, Mr. Petrocik

### 212. International Relations
An examination of contemporary theories and methodologies in international relations, with applications to contemporary international politics.

Mr. Jervis

### 213. American Foreign Policy
An examination of major contemporary problems.

The Staff

### 214A-214B. Survey Courses in American Politics
Students taking MA or Ph.D. examinations in the Politics field will ordinarily have completed these courses before the examination sequence.

214A. Political Parties and the Electoral Process.

214B. American Political Institutions.

Mr. Brown, Mr. Marvick, Mr. Petrocik

### 215A-215B. Comparative Government
Prerequisites: course 215A or consent of instructor is prerequisite for 215B. Approaches to the study of comparative politics and problems of comparative political analysis.

The Staff

### 216. Public Law
A systematic analysis of the scope and nature of public law, with particular attention given to its materials and methods as illustrated in concepts and doctrines drawn from various of its subject fields. May be concurrently scheduled with Political Science 197E.

The Staff

## Political 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 Political Science 197F, sec. 2.

Mr. Engelbert

### 218. Approaches to Organizational Analysis
Analysis of several of the major conceptual alternatives for the study of organizations, with emphasis given to public and administrative organizations. Among the topics covered are structural-functional and systemic approaches to organization, rational-choice models, and sociological analyses. Each field will be evaluated for its strengths and weaknesses as a guide to understanding organizational analysis. May be concurrently scheduled with Political Science 197F, sec. 1.

The Staff

## The Administrative System

A behavioral analysis of the processes of public administrative structures in the American political system. Emphasis will be placed on rational decision-making and program innovation and on the problems of maintaining public responsibility. May be concurrently scheduled with Political Science 197E, section 2.

The Staff
from Glavill to today, Statutes and how to find them. The language of the law. Although emphasis will be placed upon American materials the entire English speaking world will be covered. May be concurrently scheduled with Political Science 197E.

Mr. Gerstein

23B. 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 non-judicial materials.

Mr. Hobbs

23C. The Bill of Rights and the States. An examination of the development of the Bill of Rights over a two-quarter sequence on public agency organization; the judicial process; judicial behavior, and legal controls on social conduct. May be concurrently scheduled with Political Science 197E.

Mr. Gerstein

Graduate Seminars

Prerequisite for all graduate seminars: advanced consent of instructors.

250A-250L. Seminars in Regional and Area Political Studies.

250A. Latin-American Studies.

Mr. Gonzalez, Ms. Purcell

250B. Russian and Slavic Studies. May be concurrently scheduled with Political Science 197C.

Mr. Iwaszkiewicz, Mr. Kordinski

250C. Chinese and East Asian Studies. May be concurrently scheduled with Political Science 197D.

Mr. Baum

250D. Japanese and Western Pacific Studies. May be concurrently scheduled with Political Science 197D.

Mr. Baerwald

250E. Seminar in African Studies. May be concurrently scheduled with Political Science 197D.

Mr. Lotchie, Mr. Sklar

250F. Middle Eastern Studies. May be concurrently scheduled with Political Science 197D, sec. 5.

Mr. Jabber, Mr. Kerr

250G. Commonwealth Studies. The Staff

250H. Seminar in Western European Studies. May be concurrently scheduled with Political Science 197D.

Mr. Suleiman

250I. Southeast Asian Studies. May be concurrently scheduled with Political Science 197D, sec. 4.

The Staff

250J. North African Studies. Mr. Kerr

250K. South Asian Studies. Mr. Sisson

252. Seminar in Public Law. May be concurrently scheduled with Political Science 197E.

The Staff

253. Seminar in International Relations. May be concurrently scheduled with Political Science 197B, sec. 2.

The Staff

254. Seminar in Public Administration. May be concurrently scheduled with Political Science 197B.

Mr. Engelberg, Mr. Hoffenberg

256A-256B. Seminar in Comparative Government. Prerequisite: course 256A is prerequisite to 256B.

The Staff

257. Seminar in Political Theory. A multiple-term course. Grade to be given only upon completion of 257A and 257B.

The Staff

259. Seminar in Political and Electoral Problems. Prerequisite: two graduate courses in Politics.

The Staff

260. Seminar in Municipal Government. May be concurrently scheduled with Political Science 197F.

Mr. Bollens

271. Seminar in Political Change. An interdisciplinary seminar directed toward the analysis of political change. To be offered by members of the Department of Political Science. May be concurrently scheduled with Political Science 197D.

The Staff

280A-280B. Advanced Practicum in Administrative Research. Prerequisite: At least five courses (20 units) at the graduate and upper division level in political science and consent of the instructor. An advanced laboratory/seminar in applied research over a two-quarter sequence on public agency organization; the judicial process; judicial behavior, and legal controls on social conduct. May be concurrently scheduled with Political Science 197E.

Mr. Gerstein

495. Teaching Political Science. A workshop in teaching techniques, including evaluation of each student's own performance as a Teaching Assistant. Normally to be taken by all new Teaching Assistants in the quarter of their assistantships; may be taken by students only in a quarter in which they are Teaching Assistants; cannot be used to fulfill M.A. or Ph.D. course requirements. Graded Satisfactory/Unclassified.

The Staff

501. Cooperative Program. (4 to 2 courses) Prerequisite: Parallel major of UCLA Graduate Admittee in Graduate Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken unenrolled. The seminar arrangements with neighboring institutions. To be graded S/U.

The Staff

Individual Study and Research

596. Directed Individual Study or Research. (4 to 1 course) A letter grade (A, B, C, D, or F) will be assigned by the professor supervising the study or research. May apply toward the minimum course requirement for the master's degree, and it ordinarily may be used for this requirement only once.

597. Preparation for the Comprehensive Examination for the Master's Degree or the Qualifying Examinations for the Ph.D. (4 to 2 courses) This course is ordinarily taken only during the quarter in which the student is being examined. A grade of Satisfactory (S) or Unsatisfactory (U) will be assigned by the Department on the basis of the student's performance in the examination(s).

598. Research for and Preparation of the Master's Thesis. A grade of Satisfactory (S) or Unsatisfactory (U) will be assigned by the professor supervising the master's thesis. This course will rarely be taken in the Department because students normally receive their master's degree under the Comprehensive Examination Plan.

599. Research for and Preparation of the Doctoral Dissertation. (4 to 2 courses) A grade of Satisfactory (S) or Unsatisfactory (U) will be assigned by the professor supervising the dissertation. There is no restriction on the number of times an individual student may enroll in any of the 590 series courses.

PSYCHIATRY AND BIOBEHAVIORAL SCIENCES

(Department Educational Activities Office, B-7349 NPI)

T. George Bidder, M.D., Professor of Psychiatry in Residence.
Norman Q. Britt, M.D., Emeritus Professor of Psychiatry.
Jann Brown, M.D., Professor of Pathology and Psychiatry.
Norman S. Cohen, M.D., Professor of Biobehavioral Sciences and Anatomy in Residence.
Dennis P. Cantwell, M.D., Professor of Psychiatry.
Chung Tao Chien, M.D., Professor of Psychiatry in Residence.
Kenneth M. Colby, M.D., Professor of Psychology.
Robert H. Coombs, Ph.D., Adjunct Professor of Biobehavioral Sciences.
Joseph W. Cullen, Ph.D., Adjunct Professor of Biobehavioral Sciences (Public Health).
Jean S. deVellis, Ph.D., Professor of Anatomy and Biobehavioral Sciences.
Wilfrid J. Dixon, Ph.D., Professor of Biometrics, Public Health, and Biobehavioral Sciences.
Robert B. Edgerton, M.D., Professor of Biobehavioral Sciences and Anthropology in Residence.
Bernice T. Edudson, Ph.D., Professor of Biobehavioral Sciences and Psychology in Residence.
Samuel Edudson, Ph.D., Professor of Biobehavioral Sciences and Biological Chemistry in Residence.
Richard K. Eynon, Ph.D., Adjunct Professor of Biobehavioral Sciences (Psychology).
Barbara Fish, M.D., Professor of Psychiatry.
Arnold L. Flanders, Ph.D., Adjunct Professor of Biobehavioral Sciences (Medical Chemistry).
Steven R. Forness, Ed.D., Professor of Biobehavioral Sciences and Special Education in Residence.
Joan M. Foster, M.D., Professor of Psychiatry in Residence.
Rosalyn Gaines, Ph.D., Professor of Biobehavioral Sciences (Medical Psychology) in Residence.
Gary C. Galbraith, Ph.D., Adjunct Professor of Biobehavioral Sciences (Psychology) in Residence.
Ronald G. Gallimore, Ph.D., Professor of Biobehavioral Sciences (Psychology) in Residence.
John Garcia, Ph.D., Professor of Psychology and Biobehavioral Sciences.
Harold Gartinkl, Ph.D., Professor of Sociology and Biobehavioral Sciences.
Walter R. Goldschmidt, Ph.D., Professor of Anthropology and Biobehavioral Sciences.
Milton Greenblatt, M.D., Professor of Psychiatry in Residence.
Herbert J. Grosman, M.D., Professor of Psychiatry in Residence.
Donald Guthrie, Ph.D., Adjunct Professor of Biostatistics and Biobehavioral Sciences.
John Hanley, M.D., Professor of Psychiatry in Residence.
Christoph M. Heinricke, Ph.D., Adjunct Professor of Biobehavioral Sciences (Medical Psychology).
Frank M. Hewitt, Ph.D., Professor of Education and Biobehavioral Sciences.
Chester D. Hull, Ph.D., Professor of Biobehavioral Sciences (Neuropsychology) in Residence.
Linn F. Jarvik, Ph.D., M.D., Professor of Psychiatry.
Murray E. Jarvik, M.D., Ph.D., Professor of Psychiatry and Pharmacology.
Harry J. Jerison, Ph.D., Professor of Biobehavioral Sciences and Anthropology.
John G. Kennedy, Ph.D., Professor of Anthropology and Biobehavioral Sciences in Residence.
Hayato Kihara, Ph.D., Professor of Biobehavioral Sciences (Biological Chemistry).
Lewis L. Langness, Ph.D., Professor of Biobehavioral Sciences and Anthropology.
Robert P. Liberman, M.D., Professor of Psychiatry in Residence.
Horace W. Magoun, Ph.D., Emeritus Professor of Anatomy and Biobehavioral Sciences.
James T. Marsh, Ph.D., Professor of Biobehavioral Sciences (Medical Psychology).
David S. Marks, Ph.D., Professor of Anatomy and Biobehavioral Sciences.
Philip R. May, M.D., Professor of Psychiatry in Residence.
Donald G. McCarty, M.D., Professor of Psychiatry.
Ivan N. Mensh, Ph.D., Professor of Biobehavioral Sciences (Medical Psychology).
Milton H. Miller, M.D., Professor of Psychiatry.
William H. Oldendorf, M.D., Professor of Neurology and Psychiatry in Residence.
Edward M. Ornitz, M.D., Professor of Psychiatry in Residence.
Morris J. Paulson, Ph.D., Professor of Biobehavioral Sciences (Medical Psychology).
Robert O. Parnau, M.D., Professor of Psychiatry in Residence.
Michel Philippart, M.D., Adjunct Professor of Psychiatry, Neurology and Psychiatry.
George J. Popjak, M.D., Professor of Psychology and Biobehavioral Sciences (Medical Psychology).
Douglas R. Price-Williams, Ph.D., Professor of Biobehavioral Sciences and Anthropology in Residence.
Richard H. Rabe, M.D., Adjunct Professor of Psychiatry.
Fredrick C. Redlich, M.D., Professor of Psychiatry in Residence.
Edward E. Rimo, M.D., Professor of Psychiatry in Residence.
Robert T. Rubin, M.D., Professor of Psychiatry in Residence.
George Seiden, M.D., Professor of Psychiatry in Residence.
Martin J. Scharf, M.D., Professor of Pediatrics, Neurology, and Psychiatry.
Arnold B. Scheidt, M.D., Professor of Anatomy and Psychiatry.
Donald A. Schwartz, M.D., Adjunct Professor of Psychiatry.
Fusstace A. Sereiferndes, M.D., Ph.D., Professor of Psychiatry in Residence.
David Shapiro, Ph.D., Professor of Biobehavioral Sciences and Psychology.
Edwin S. Sheinberg, Ph.D., Professor of Biobehavioral Sciences in Residence.
Arthur B. Silverstein, Ph.D., Adjunct Professor of Biobehavioral Sciences.
James Q. Simmons, M.D., Professor of Psychiatry in Residence.
S. Stefan Soltysik, Ph.D., Professor of Biobehavioral Sciences (Neuropsychology) in Residence.
Upper Division Courses

M112. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M176 and Psychology M155.) Prerequisite: consent of instructor. The skill of observing and recording behavior 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.

M180A. Contemporary Problems in Mental Retardation. (Same as Psychology M180A.) Prerequisite: Psychology 10, 41, and 127 or 130, and consent of instructor. This course is divided into three quarters to psychopathological behavior in 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. To be taken concurrently with Fieldwork in Contemporary Problems in Mental Retardation.

M180B. Contemporary Issues in Mental Retardation. (Same as Psychology M180B.) Prerequisites: Psychology M180A and enrollment in Immersion Program. Psycho-educational issues in mental retardation, research in field training, experience in planning programs for the mentally retarded. (Same as Psychology M181A-181B.) Prerequisite: concurrent enrollment in Psychology M180A-180B. Fieldwork experience to be taken concurrently with Contemporary Problems in Mental Retardation.

M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychology M182A.) Prerequisite: statistics and completion of Immersion Program. Introduction of statistical method and design in experimentation principles of statistical inference and appropriate testing methods. An introduction to the use of computers and various software packages is presented.

M182B. Advanced Design and Statistics. (Same as Psychology M182B.) Prerequisite: Psychology M182A. Continuation of Psychology M182A.

M186B. Perception: (Same as Psychology M186B.) Prerequisite: enrollment in Immersion Program. Human information processing, perception and psychological with special emphasis on pathologies in the mentally retarded.

M186D. Current Issues in Mental Retardation. (Same as Psychology M186D.) Prerequisite: enrollment in Immersion Program. Advanced topics in mental retardation. May be repeated for credit with permission of instructor.

Graduate Courses

200. Colloquium on Biobehavioral Sciences. (4% course) Prerequisite: consent of instructor. The colloquium establishes a vehicle for continuing education on recent advances in various scientific fields relevant to behavior and the biological and social sciences. 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.

202A-2018-201C. The Functional Organization of Behavior. (Same as Neuroscience M202A-201B-201C.) Prerequisite: consent of instructor, admission to M201A-201B-201C, and consent of instructor. The course is divided into three quarters. The Fall Quarter focuses on species characteristics and behavioral organization in segment 1. The Winter Quarter focuses on historical issues in biological and social contexts. The Spring Quarter relates the content of the previous two quarters to psychopathological behavior in humans and nonhuman primates.

M204A-2049-204C. Psychiatric Theory and Practice. (4% course each) Prerequisite: consent of instructor. The theory of psychoanalytic psychotherapeutic technique is discussed. Comparative grids of the classical analytical, Kleinian, and Eriksonian theories are demonstrated in segment A. Segments B and C concentrate on historical Freudian theory compared to current daily clinical practice and theory in modern psychiatry. The Staff

205. Advanced Psychiatric Theory Seminar. (4% course) Prerequisite: consent of instructor. Seminar and discussion on topics of current psychiatric interest led by leaders of local psychiatric community.

207. Hypnosis Seminar. (4% course) Prerequisite: training in hypotherapy, education in psychodynamics and hypnosis, and consent of instructor. Experimental seminar with guided reading and training in inductions, anesthesia, age
and research of the application of this knowledge and these techniques relevant to the understanding of behavioral and biomedical approaches is stressed.

Mr. McCreary, Mr. Munford, Mr. Shapiro

231. Mexican Americans and Mental Health. (Prerequisite: consent of instructor. Course will highlight mental health needs of Mexican Americans through seminars dealing with: historical comparison of psychiatry in Mexico and United States, an analysis of the various theoretical perspectives regarding bio-psycho-social behavior, distinguishing psychodynamic from cultural factors in the treatment of the Mexican-American patient; mental health impact of the criminal justice system and urban disorder.) Mr. Montiel.

232A-232B. Human Sexual Dysfunction. (Prerequisite: consent of instructor. One year training and research course in the direct behavioral treatment of human sexual dysfunction. A combination of didactic material and supervised experience.) Mr. Golden

233. Alcoholism and Drug Abuse Among Women. Prerequisite: consent of instructor. Discussion of the psychosocial aspects of abuse of alcohol and other drugs among women. Topics will include the neurobiology and psychopathology of alcoholism and other drug use, definitional and etiologic correlates, and the role of the family. Emphasis will be placed upon current theoretical perspectives and research findings.) Mr. Beckman

234A-234B-234C. Affective Disorders. (Prerequisite: graduate standing and consent of instructor. Seminar will deal with topics related to the primary affective disorders (depression, manic depressive illness) including diagnosis, pharmacology, epidemiology, psychology, psychopathology, biology, and treatment.) Ms. Janison

235. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M244.) 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.) Mr. Gallimore, Mr. Weisner

236A-236B-236C. Psychological Interns' Seminar. (Prerequisite: consent of instructor. Current topics in clinical psychology. The initial focus of the seminar will be on the diagnostic and clinical study of schizophrenic disorder. Clinical and research literature on schizophrenia and concepts from cognitive developmental psychology will be discussed.) Mr. Jarvik, Mr. Straker

237. Child Psychiatry Seminar. (Same as Psychology 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. Discussion of the effects of different drugs and the impact of the pharmacological and biochemical mechanisms underlying such actions will be analyzed. Reports on relevant current research will be made. Mr. Jarvik

240ABC. Assessment and Treatment of Afro-American Families. (Prerequisite: 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. Didactic presentations by instructors and invited guests form the basis for a supervised evaluation and case management with an Afro-American child and family.) Ms. Bass, Ms. Powell, Ms. Wyatt

241A-241B-241C. Observation of Group Psychotherapy. (Prerequisite: consent of instructor. Principles of adult psychotherapy and group process will be used as a framework for understanding group, lecture, and discussion. Major theoretical emphasis will be on humanistic-group dynamic approaches.) Mr. Rosen

242A-242B-242C. Child Psychotherapy Seminar. (Prerequisite: consent of instructor. Current emphasis will be on a child-oriented, psychoanalytically oriented child psychotherapy and consent of instructor. Videotaped sessions of treatment of a child and family will provide a framework for discussing such issues as: assessment, the beginning of treatment, the over-determined nature of the symptom, transference phenomenon related to parental conflict, initial reactions to psychological theories, factors enhancing further working relationships with child and family and various other technical issues including the handling of terminations. Student presentations will be encouraged in order to amplify clinical and theoretical concerns.) Mr. Heincke

243A-243B-243C. Mental Retardation Interdisciplinary Core Curriculum. (Prerequisite: consent of instructor. A survey series on major topics in areas such as diagnosis, epidemiology, nosology, assessment, health care delivery systems, basic genetics, nutrition, direct care, and special delists. Presented in an interdisciplinary framework as generic information independent of discipline.) Mr. Cantwell, Mr. Tymchuk

244. Computers in Mental Retardation Research. Prerequisite: consent of instructor. An introduction to the basic nature of digital computer systems, with emphasis on their impact on society.) The course is directed toward providing the student with a broad general understanding of applications and limitations of computers. Specific examples are drawn from research, research, and administrative applications within the Mental Retardation and Child Psychiatry Program.) Mr. Guthrie, Mr. Hull

M246. Psychological Aspects of Mental Retardation. (Same as Psychology M246.) Prerequisite: consent of instructor. Discussion of the psychological aspects of mental retardation to include: classification, description, etiology, theory, prevention, treatment, assessment, modern and future developments, and input from other disciplines (ethics, law, religion, welfare systems).) Mr. Tymchuk

247A-247B-247C. Neurophysiological and Neuropsychological Bases of Mental Retardation and Human Development. (Prerequisite: consent of instructor. Graduate standing and consent of instructor. Involves discussion of advances in neurophysiology and neuropsychology with particular reference to modern developmental studies. Faculty members or advanced students present their research in current literature available in the library; intense discussion occurs during and after presentation.) Mr. Levine, Mr. Sobolski

248. Research Trends in Mental Retardation and Developmental Disabilities. (Prerequisite: consent of instructor. Monthly session will consist of presentation of a patient and discussion of research approaches relevant to that patient. Staff members of various disciplines and interested and interested speakers will participate.) Mr. de Vellis

249A-249B. Language Disorders of Childhood. (Prerequisite: consent of instructor. Course reviews language disabilities in children, their relationship to normal maturational patterns and the impact of both on communication hypothesis, universal of language development, environmental factors affecting language acquisition, neural mechanisms underlying speech and language, diagnostic methods, and application to remedial language training.) Ms. Baltaxe

NOTE: For key to symbols, see page 74
250. Introduction to the Principles and Techniques of Mammalian-Cell Culture. (¼ course) Prerequisite: graduate or medical student status and consent of the instructor. This course provides a background in the physiology and biochemistry of mammalian cells through lecture and selected readings in the classical field. Designed to be taken concurrently with 251. Mr. Haggerty

251. Laboratory Exercises in the Techniques of Mammalian-Cell Culture. Prerequisite: graduate or medical student status and consent of the instructor. This course provides a working knowledge of the physiology and biochemistry of mammalian cells in culture through laboratory exercises emphasizing propagation and differentiation of differentiated and undifferentiated continuous mammalian-cell lines. Designed to be taken concurrently with 250. Mr. Haggerty

252. Clinical Child Psychiatry. (¼ course) Prerequisite: consent of instructor. Weekly seminars covering the basic clinical aspects of child psychiatry. Assigned readings are presented by students and used as a basis for discussion of a particular topic. Topics covered include interviewing of parents and children, diagnosis in child psychiatry, and the clinical child psychiatric syndrome. Mr. Cantwell

253. Seminar: Child Development. (¼ course) Prerequisite: consent of instructor. The seminar is divided into two parts: review of developmental theory, systems of child development, and chronological aspects of child development. Presentation of assigned readings by the student plays a major role in each of the seminar sessions. Mr. Haggerty

M254. Counseling Families of Handicapped Children. (¼ course) (Same as Social Welfare M242.) Prerequisite: consent of instructor. Techniques and issues in counseling families through evaluation, treatment, and the psychological stresses on family unit, professional's reactions, community resources, and issues of genetic counseling, placement, and developmental crises. Ms. Costello, Ms. Shima

M255. Consultation and Psychopathology. (Same as Psychology M285.) Prerequisite: some background in psychopathology, comparative psychology, zoology or comparative genetics and consent of the instructor. This course will explore those animal models of psychopathology most relevant to human clinical problems (i.e., schizophrenia, depression, phobias, anxiety states, drug abuses, aggression, sexual dysfunction, etc.). The interaction or convergence of social, biological, and environmental phenomena will be studied, and the influence of these factors on behavior will be emphasized. The relevance of the model to the understanding of homologous human conditions will be analyzed. Mr. Garcia

256. Basic Clinical Child Psychopathology. (¼ course) Prerequisite: consent of instructor. Weekly seminars covering the basic clinical aspects of child psychopathology. Readings will be provided for a basis of discussion on topics including interviewing of parents and children, diagnosis, and related syndromes. Mr. Haggerty

257A-257B-257C. Diagnostics and Therapeutics of Language Disabilities. (¼ course each) Prerequisite: consent of instructor. This course is directed toward the language specialist seeking training in the developmental diagnosis and remediation of language. The course includes training in diagnostic techniques and therapy approaches. Linguistic disabilities are placed within the framework of total behavior. The clinical practical includes individual case supervision, a review of the pertinent literature, and a discussion of research topics. Students are required to complete a clinical research project in psycho- and neuro-linguistics. Mr. Haggerty

258. Legal and Ethical Issues in Developmental Disabilities. (¼ course) Prerequisite: consent of instructor. Discussion of current laws in mental retardation/developmental disabilities, philoso-

259. Clinical Child Psychopathology. (¼ course) Prerequisite: consent of instructor. This course will cover the correlation of neuro-anatomy, neuro-physiology, and neuro-behavior with behavioral disorders and pharmacologic therapy. The course is designed to give an appreciation of the central nervous system as an organ that regulates the internal milieu of the body, the physical environment, and continuously modulates the internal-external interface. Current methods of brain function and theories of how disease and drugs disrupt its functions will be explored. Mr. Erin

260A-260B-260C. Biofeedback and Biobehavioral Medicine. (Same as Psychology M211-260.) Prerequisite: consent of instructor. Course explores biofeedback and related behavioral techniques and their application to various clinical disorders (hypertension, pain and anxiety, headache, sexual dysfunction, neuro-muscular rehabilitation, etc.). Clinical experience with patients may be possible. In-progress grading. Mr. Shapiro

261. Neurophysiology and Behavior. (¼ course) Prerequisite: consent of instructor. This course reviews the fossil evidence on the organic evolution of the brain and the implications of that evidence for the evolution of mind and intelligence. Quantitative approaches are emphasized although attention to cognitive psychology and individual differences are considered. The evolutionary analysis is “above the species level.” Mr. Jerison

262. Psychophysiology Seminar. (¼ course) Prerequisite: consent of instructor. Seminar presentations and discussions of research in psychophysiology. Possible topics include basic research on biofeedback and self-regulation of physiological processes, clinical research on applications of biofeedback to psychophysiological disorders, autonomic-central nervous system interactions, and the study of consciousness. Mr. Shapiro

263. Program Evaluation Laboratory. Prerequisite: consent of instructor. Directed individual program evaluation with experience at the graduate level. Skills in program evaluation will be taught, emphasizing field setting and practice. Some of the uses of evaluation material will be discussed, also the difficulties. Mr. McCarthy

264. Program Evaluation Research Conference. (1/4 course) Prerequisite: consent of instructor. A multi-disciplinary program evaluation group focuses on specific program evaluation projects in the planning stage and at intervals during the progress of the project. The emphasis is on design of program evaluation research relevant to a particular program and on techniques and procedures to ensure that the evaluation is successful and carried out. Mr. Keller

265. Changing Patterns in Family Organization. (¼ course) Prerequisite: consent of instructor. The emphasis will be on modern family groupings in terms of trends in marriage and other arrangements. Some historical and archaeological perspectives will be included. Mr. Cantwell

266. Consultation to Sex Education Programs in the Elementary School. (¼ course) Prerequisite: graduate standing and consent of instructor. This seminar will focus on issues of consultation programs and development education for elementary school children and parents. It will offer participants the opportunity to observe behavior of and interact with normal children within the school setting. Ms. Meyer, Ms. Wyatt

267. From Research to Practice: Biobehavioral Contributions. (¼ course) Prerequisite: consent of instructor. An overview of behavioral research and its current translation into clinical and preventive practice across disciplines. SU grading. Mr. Serentides

268. Current Topics in the Biobehavioral Sciences. (½ to 1 course) Prerequisite: consent of instructor. Current issues in the biobehavioral sciences will be offered on a selective basis depending upon instructor interest and topical relevancy of problems. See Schedule of Classes for topics and instructors. May be repeated for credit. The Staff
Professional Courses

400A-400B. Introduction to Human Behavior. (4 course each) Prerequisite: graduate student in a behavioral science program and consent of instructor. Application of theories and findings of the behavioral sciences to the health professions.

Mr. Javik

403. Individual Case Supervision. (4 to 1 course) Prerequisite: consent of instructor and Department Chairman. One-to-one supervision of individual therapy cases. Includes analyses of patient data, supervision of ongoing treatment, informal didactic sessions on personality theory, and applications to patient management. Consent is based on a written proposal to be submitted by the instructor prior to enrollment. Additional information and proposal forms are available in the Educational Activities Office, B7-349 NPI.

The Staff

404. Group Therapy. (4 course) Prerequisite: consent of instructor. Section 1: Gestalt. Experiential and didactic seminar in Gestalt therapy and other humanistic group models. Case consultations are included when relevant. The Staff

Section 2: Dynamic Experience. This group experience has as its primary goal the attainment of significant usable insight by the trainee into his/her personal and interpersonal attitudes so that his/her emotional conflicts will not interfere with his/her functioning as an effective group therapist. Will provide insights into how groups affect people and how people affect groups – to help groups function more efficiently. The Staff

413. Community Meeting (2-West). (4 course) Prerequisite: assignment to Ward 2-West and consent of instructor. One hour course is devoted to individual experience in leading a large group of all patients and staff. Leadership is by rotation. A half-hour process didactic session follows.

Mr. Robertson

414. Emergency Treatment Attending Rounds. (4 course) Prerequisite: assignment to Emergency Treatment Unit and consent of instructor. Selected cases are presented by a resident, staff member or trainee to the instructor. Weekly rounds by the instructor. The Staff

415. Emergency Treatment Case Conference. (4 course) Prerequisite: assignment to Emergency Treatment Unit and consent of instructor. Selected cases are presented by the attending physician. The Staff

416. Treatment Planning Meetings. (4 course) Prerequisite: consent of instructor. The course focuses on treatment and management problems posed by inpatient psychiatry. Clinical psychopathology, treatment plans and interdisciplinary skills are discussed. The emphasis is on formulating a treatment plan and consent of instructor. Cases seen in the emergency room during the preceding week are reviewed by a consultant and the Emergency Treatment staff. Assessment techniques, methods of intervention and alternate modes of treatment are explored.

Mr. Slawson

424. Ward Milieu Meeting. (4 course) Prerequisite: consent of instructor. Milieu course objectives are to design, develop and implement a multidisciplinary program to care for patients in a psychiatric inpatient ward.

Section 1: A-South

Mr. Strober

Section 2: A-West

The Staff

425. Child Pre-Admission, Admission and Disposition Conference. (4 course) Prerequisite: consent of instructor. Child pre-admission 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 therapy cases, with combined physical and intellectual defects, for interdisciplinary problem solving.

Section 1: A-South

Mr. Strober

Section 2: A-West

Mr. Robertson

426. Psychology Interns' Psychosomatic Liaison Case Conference. Prerequisite: consent of instructor. Psychology interns' case conference of psychosomatic aspects of physical illness. Cases will be discussed with regard to management issues, psychotherapy issues, methods of psychodiagnosis, countertransference and relevant literature. In addition, participants will provide individual supervision on a weekly basis.

Mr. Welisch

429. Child Outpatient Team. (4 course) Prerequisite: consent of instructor. One hour course meets to coordinate the clinical activities of the trainees in the Child Outpatient Department. Discussion of literature and theories related to selected cases.

Section 1: First Year Child Fellows. Mr. Cantwell

Section 2: Second Year Child Fellows. Mr. Simmons, Mr. Tanguay, Mr. Tarjan

Section 3: Second Year Resident. Mr. Yager

Section 4: Second Year Residence. Mr. Yager

Section 5: Second Year Resident. Mr. Ritz

Section 6: UAF Trainees. Mr. Tymchuk

445. Family Therapy Seminar for Clinicians. (4 course) Prerequisite: consent of instructor. Case discussions include clinical assessment and treatment experience with individuals and families. Consent of instructor. The Staff

446. Structural Family Therapy. (4 course) Prerequisite: prior clinical experience in family therapy and consent of instructor. Intensive focus is on structural family therapy. Mr. Gottlieb

462A-462B-462C. Advanced Mental Health Conference. Prerequisite: consent of instructor. This course provides knowledge of children in schools through: 1) field experience; 2) a didactic program; 3) group supervision. Each trainee chooses a main focus or topic in prior clinical experience and completes field experience in consultation. Supervision focuses on the planning of the case or problem at hand. Mr. Fawzy


Mr. Fawzy

471. Mental Retardation and Child Psychiatry Special Problems Conference. Prerequisite: consent of instructor. Each month a basic clinical problem pertinent to the Staff of the Mental Retardation and Child Psychiatry Program presents a major clinical problem. Mr. Fawzy

474. Training in Meditation: The Relaxation Response. (4 course) Prerequisite: consent of instructor. Review of the literature and research on meditation. Explanation of meditation terms and the sessions to become proficient in practicing meditation: the relaxation response.

Mr. Marsch

475. Developmental Disabilities Clinic. Prerequisite: consent of instructor. Follow up clinic for children with development disabilities. Mr. Fawzy

477A-477B. Advanced Family Therapy Seminar for Clinicians. (4 course) Prerequisite: consent of instructor. Alternative and derivative models to structural family therapy are critically reviewed by the seminar group; e.g., family sculpting, network therapy, various communication models, issues of mothering, etc. Ms. Savino

478. Clinical Genetics Rounds. Prerequisite: medical student and consent of instructor. Weekly clinical rounds on patients seen on the wards during the preceding week. House staff and other people involved in clinical work may attend. Ms. Goldenberg, Mr. Gottlieb

479. Genetics Clinic Presentation. Prerequisite: consent of instructor. A weekly clinical teaching session on the patients seen in the preceding Genetics Clinic. Ms. Crandall and the Genetics Staff

480. Analysis of Human Chromosome Studies. (4 course) Prerequisite: consent of instructor. Cytogenetics laboratory during the preceding week. Mr. Wellisch

481. Chromatography Review. Prerequisite: previous course or biochemistry and consent of instructor. A weekly session in which amino acid chromatography carried out during the preceding week is presented. Teaching concerns the interpretation of abnormal chromatograms together with the technical aspects of the tests used.

Mr. Cederbaum

NOTE: For key to symbols, see page 74
PSYCHOLOGY

(Department Office, 1283 Franz Hall)

Bruce L. Baker, Ph.D., Professor of Psychology.
Peter M. Bender, Ph.D., Professor of Psychology.
Robert A. Bjork, Ph.D., Professor of Psychology.
William E. Broen, Jr., Ph.D., Professor of Psychology.
Michael J. Goldstein, Ph.D., Professor of Psychology.
Richard Centers, Ph.D., Professor of Psychology.
James C. Coleman, Ph.D., Professor of Psychology and Education.
Barry E. Collins, Ph.D., Professor of Psychology.
Andrew L. Conrey, Ph.D., Professor of Psychology.
Howard M. Dooley, Ph.D., Professor of Psychology.
Seymour Feshbach, Ph.D., Professor of Psychology (Chairman of the Department).
Morton I. Feldstein, Ph.D., Professor of Psychology (Vice Chairman of Undergraduate Affairs).
John Garcia, Ph.D., Professor of Psychology and Psychiatry.
Harold B. Gersten, Ph.D., Professor of Psychology.
Michael J. Goldstein, Ph.D., Professor of Psychology.
Patricia M. Greenfield, Ph.D., Professor of Psychology.
John J. Greening, Ph.D., Professor of Psychology.
Wendell E. Jeffrey, Ph.D., Professor of Psychology.
F. Nowell Jones, Ph.D., Professor of Psychology.
Harold J. Kelley, Ph.D., Professor of Psychology.
Franklin B. Krause, Ph.D., Professor of Psychology.
John C. Liebeskind, Ph.D., Professor of Psychology.
O. Ivan Lovaas, Ph.D., Litt.D., Professor of Psychology.
Millard C. Madsen, Ph.D., Professor of Psychology.

Irvat Imai, Ph.D., Professor of Psychology.
Albert Mehrabian, Ph.D., Professor of Psychology.
Charles Y. Nakamura, Ph.D., Professor of Psychology.
Donald Novik, Ph.D., Professor of Psychology.
Amado M. Padilla, Ph.D., Professor of Psychology.
Allan Parducci, Ph.D., Professor of Psychology.
Bertram H. Raven, Ph.D., Professor of Psychology.
Eliot H. Rodnick, Ph.D., Professor of Psychology.
David O. Sears, Ph.D., Professor of Political Science.
Joseph G. Scheiber, Ph.D., Professor of Psychology.
Gerald H. Shorr, Ph.D., Professor of Psychology and Sociology.
James P. Thomas, Ph.D., Professor of Psychology (Vice Chairman of Graduate Affairs).
Bernard Weiner, Ph.D., Professor of Psychology.
Carolyn Fisher, Ph.D., Emeritus Professor of Psychology.
Joseph A. Gengerelle, Ph.D., Emeritus Professor of Psychology.
Millon, E.H. Professor of Psychology.
George F. Lehner, Ph.D., Emeritus Professor of Psychology.
Donald B. Lindsey, Ph.D., Sc.D., Emeritus Professor of Psychology and Physiology.
Laurence A. Petrash, Ph.D., F.A.G.O., Emeritus Professor of Music and Psychology.
Jesse L. Railhman, E.D.D., Emeritus Professor of Psychology.
John P. Seward, Ph.D., Emeritus Professor of Psychology.
Marion A. Weinger, Ph.D., Emeritus Professor of Psychology.
Howard S. Adelson, Ph.D., Associate Professor of Psychology and Lecturer in Education.
Richard P. Bartell, Ph.D., Associate Professor of Psychology.
Jackson Beatty, Ph.D., Associate Professor of Psychology.
Elizabeth L. Bjork, Ph.D., Associate Professor of Psychology.
Larry L. Butcher, Ph.D., Associate Professor of Psychology.
Jacqueline D. Christiansen, Ph.D., Associate Professor of Psychology and Associate Research Psychologist.
Gerald M. Goodman, Ph.D., Associate Professor of Psychology.
Barbara A. Henry, Ph.D., Associate Professor of Psychology.
Eric W. Holman, Ph.D., Associate Professor of Psychology.
Marion Jacobs, Ph.D., Adjunct Associate Professor of Psychology.
Donald G. MacKay, Ph.D., Associate Professor of Psychology.
Dennis J. McGinty, Ph.D., Adjunct Associate Professor of Psychology and Associate Research Anatomist.
George E. Mount, Ph.D., Associate Professor of Psychology.
Thomas D. Winkens, Ph.D., Associate Professor of Psychology.
L. Arthur Woodward, Ph.D., Associate Professor of Psychology.
Paul K. Abramson, Ph.D., Assistant Professor of Psychology.
Arthur P. Arnold, Ph.D., Assistant Professor of Psychology.
Andrew Christensen, Ph.D., Assistant Professor of Psychology.
Bradley B. Dooly, Ph.D., Assistant Adjunct Professor of Psychology.
Halldor H. Fairchild, Ph.D., Assistant Professor of Psychology.
Patrice L. French, Ph.D., Assistant Professor of Psychology.
Barbara A. Gutek, Ph.D., Assistant Professor of Psychology.
Constance L. Hammen, Ph.D., Assistant Professor of Psychology.
Anna G. Heinrich, Ph.D., Adjunct Assistant Professor of Psychology.
Manuel Leon, Ph.D., Assistant Professor of Psychology.
Sigrid R. McPherson, Ph.D., Adjunct Assistant Professor of Psychology and Medical Psychology and Assistant Research Psychologist.
Hector F. Myers, Ph.D., Assistant Professor of Psychology.
L. Anne Peplau, Ph.D., Assistant Professor of Psychology.
Nancy A. Rader, Ph.D., Assistant Professor of Psychology.
Perry W. Thordyke, Ph.D., Assistant Adjunct Professor of Psychology.

Armand A. Alkire, Ph.D., Associate Clinical Professor of Psychology.
Dorothy V. Anderson, Ph.D., Associate Clinical Professor of Psychology and Medical Psychology.
Joseph A. Angelo, Ph.D., Associate Clinical Professor of Psychology.
Tora K. Aabo, Ph.D., Lecturer in Psychology.
Charles M. Bowdlear, Ph.D., Associate Clinical Professor of Psychology.
David E. Bresler, Ph.D., Adjunct Assistant Professor of Psychology and Anesthesiology.
Marcelline M. Burns, Ph.D., Assistant Research Psychologist in Psychology and Engineering.
Matthew W. Buttiglieri, Ph.D., Clinical Professor of Psychology.
Jeremiah P. Devries, Ph.D., Lecturer in Psychology and Assistant Research Psychologist in Medical Psychology.
Edward M. Cummings, Ph.D., Lecturer in Psychology.
William E. Davis, Ph.D., Associate Clinical Professor of Psychology.
Darrell C. Dearmore, M.A., Lecturer in Psychology.
Gary Fatich, Ph.D., Lecturer in Psychology.
Norma D. Feshbach, Ph.D., Professor of Education and Psychology.
Louis F. Friedman, Ph.D., Lecturer in Psychology.
Pamela C. Freundl, Ph.D., Lecturer in Psychology.
Rosalyn Gaines, Ph.D., Professor of Medical Psychology and Assistant Research Psychologist.
E. Ralph Gelenik, Ph.D., Lecturer in Psychology.
Evelyn Golden, Ph.D., Associate Clinical Professor of Psychology.
Thomas C. Greening, Ph.D., Lecturer in Psychology.
Robert L. Gunn, Ph.D., Associate Clinical Professor of Psychology.
William J. Harnen, Ph.D., Assistant Professor of Psychology.
Richard W. Hanson, Ph.D., Assistant Clinical Professor of Psychology.
Barbara Hayes-Roth, Ph.D., Adjunct Assistant Professor of Psychology.
William H. Karp, Ph.D., Lecturer in Psychology.
George J. Hube, Jr., Ph.D., Lecturer in Psychology and Assistant Research Psychologist.
Harrison V. Whyte, M.D., Senior Physician Diplomate in Student Health Service and Assistant Clinical Professor of Psychiatry and Psychology.
Harry J. Jervson, Ph.D., Professor of Medical Psychology and Psychology in Residence.
Paula B. Johnson, Ph.D., Assistant Research Psychologist.
Ronald A. Kaplan, Ph.D., Associate Clinical Professor of Psychology.
George C. Katz, Ph.D., Associate Clinical Professor of Psychology.
Adam T. Kohler, Ph.D., Assistant Clinical Professor of Psychology.
John H. Leive, Ph.D., Associate Clinical Professor of Psychology.
John H. Lyman, Ph.D., Professor of Engineering and Psychology.
Charles D. McCarthy, Ph.D., Associate Clinical Professor of Psychology.
Dennis McGinty, Ph.D., Adjunct Associate Professor of Psychology.
William H. McGlothlin, Ph.D., Professor of Psychology in Residence and Research Psychologist in Psychiatry.
John W. McKelligott, Ph.D., Associate Clinical Professor of Psychology.
Wilber E. Morley, Ph.D., Lecturer in Psychology.
Herbert A. Moskowitz, Ph.D., Associate Research Psychologist.
Morton Nave, Ph.D., Clinical Professor of Psychology.
Francis N. Newton, Ph.D., Assistant Research Anthropologist.
Robert A. Niemann, Ph.D., Assistant Research Engineer.
Philip Oderbro, Ph.D., Lecturer in Psychology.
Kenneth R. Pfeiffer, Ph.D., Lecturer in Psychology and Engineering.
Frank Rich, Ph.D., Clinical Professor of Psychology.
John W. Rohrbaugh, Ph.D., Assistant Research Psychologist.
Bruce D. Rubenstein, Ph.D., Associate Clinical Professor of Psychology.
Rene A. Ruiz, Ph.D., Visiting Research Psychologist.
Julia A. Saslow, Ph.D., Assistant Clinical Professor of Psychology.
Barbara N. Schafer, Ph.D., Clinical Associate Professor of Psychology.
Gary T. Swart, Ph.D., Clinical Professor of Psychology.
Harold J. Segel, Ph.D., Associate Clinical Professor of Psychology.
David Shapiro, Ph.D., Professor of Medical Psychology and Medical Physiology.
Satyanaraya Sharma, Ph.D., Assistant Research Psychologist in Psychology and Engineering.
Edwin S. Sheinman, Ph.D., Professor of Psychology, Sociology, and Thanatology in Residence.
Merwin T. Smith, Ph.D., Assistant Professor of Psychology.
Manuel L. Smith, Ph.D., Assistant Professor of Psychology.
Zachary Sterger, Ph.D., Lecturer in Psychology.
Kathryn L. West, Ph.D., Assistant Research Psychologist.
Joseph A. Wingard, Ph.D., Lecturer in Psychology and Assistant Research Psychologist.
Allen T. Yates, Ph.D., Assistant Research Psychologist.
Kenneth Ziemba, Ph.D., Assistant Research Psychologist in Psychology and Engineering.

Training in Psychology at UCLA emphasizes the idea of Psychology as a biosocial laboratory science. To meet the diverse needs of students, there are four different major curricula: the Psychology Major, the Quantitative Psychology Major and the Psychobiology Major. Students should note that all courses required for these majors (which include lower division courses and major courses) must be taken for a letter grade.

The Pre-Psychology Major:

While students are completing the lower division preparation courses for one of the majors listed above, they should be enrolled as Pre-Psychology Majors. Students may enroll in this pre-major at the Psychology Undergraduate Advising Office (Franz Hall 153). Students must complete the preparation courses according to the rules set down in the major before they can enroll in that major. When students have completed the preparation courses for the major, they must petition to enter that major at the Psychology Undergraduate Advising Office.
PLEASE NOTE: Students must complete all pre-major courses with a 2.0 grade point average and petition for change of major by the time they attain 135 units. Students entering UCLA as freshmen can easily complete the nine preparation courses in 135 units and will be transferred into the Psychology Major if they have a number of these preparation courses left to complete will have a more difficult time meeting this requirement. All transfer students must see a counselor in the Psychology Advising Office.

Required Lower Division Courses for the Psychology Major.

(1) An introduction to Psychology is required for the major in Psychology. The required lower division courses are as follows: Anthropology 11; Biology 2 or Biology 5 and 7; Chemistry 2 or 11A; Mathematics 32A-32B-32C; and Psychology 31A-31B-31C. Please note: Psychology 31A B C; Philosophy 1, 3, 7, 8 or 21; Psychology 10, Psychology 41 or Mathematics 50A, (Psychology 41 recommended). Students must complete all pre-major courses with a 2.0 grade point average and petition for change of major status by the time they attain 135 units. It should be noted that the above are the minimum requirements in preparing for the major. More advanced courses in science and statistics would provide stronger preparation for the major.

Required Upper Division Major Courses. Admission to the major and to certain of the courses listed below is limited to students who have completed all of the above preparation courses with a 2.0 grade point average by the time they attain 135 units. See the section above titled "The Pre-Psychology Major" for the procedures to follow in enrolling in the Psychology Major. (1) All of the following content core courses: Psychology 110, 115, 120, 125, 135; (2) Psychology 128, 129; (3) Three additional upper division elective courses in Psychology. Please note: FOR 1979-80 only the following applies to students who have partially completed the laboratory requirement: (1) Psychology majors who have completed 111, 121, or 143 may take any of the other laboratory courses of the above list to complete the laboratory requirement. (2) Psychology majors who have completed laboratory courses other than 111, 121 or 143 must take Psychology 100 to complete the laboratory requirement.

The Quantitative Psychology Major:

This major is an alternative to the Psychology major and is designed for students who plan to go on to graduate work in psychology or the health sciences. Required Lower Division Courses for the Psychology Major. The following courses must be completed with a 2.0 in EACH course: Biology 5 and 7; Chemistry 11A-11B-11C-11CLC, 21, 23, 25 for 21, 22, 24; Mathematics 3A-3B-3C or 31A-31B-31C; Philosophy 1, 3, 7, 8 or 21; Physics 6A-6B-6C or 3A-3B-3C; Psychology 10, Psychology 41 or Mathematics 50A (Psychology 41 recommended).

Required Upper Division Psychology Major Courses. Admission to the Psychology Major is limited to students who have completed the above preparation courses with a 2.0 in each course. See the section above titled "The Pre-Psychology Major" for the procedures to follow in enrolling in the Psychology Major. (1) All of the following courses: Psychology 100, 110, 115, 116, 120; (2) One of the following courses: Psychology 125, 127, 130, 135; (3) Four psychology upper division courses from the following list: Psychology 102A-102B, 117, 119, 137, 138, 139, 144, 145A-B-C, 153, 158, 166, 168, 169, 171, 172A-B, 173, 177, 179, Kinesiology 140, Chemistry 152 and Psychology 153.

Preparation for Graduate Work in Psychology

Although requirements for admission to graduate programs in Psychology in most universities will be beyond the scope of major requirements, students should realize that both admission to graduate work and progress toward the degree will be impeded in certain areas of Psychology if additional preparation is not obtained at the undergraduate level. For this reason, graduate work in psychology is advised to take additional work in methodology and statistics, and to take advantage of the many advanced undergraduate courses in specific fields offered by the Psychology Department and related departments. Students should plan to give some time to the acquisition of a reading knowledge of one or two foreign languages which might be required for the Ph.D. The Department no longer requires a foreign language except in the area of Measurement/Psychometrics; but at some other universities one or two foreign languages are required.

Consult the Psychology Undergraduate Advising Office, Franz Hall 1531, for information concerning graduate program requirements. Consult the Graduate Admissions Assistant, Franz Hall 1283, for information concerning the graduate program at UCLA.

Honors Program in Psychology

The Psychology Honors Program is intended to provide exceptional students with an opportunity to continue their junior or senior year of study under the guidance of a faculty mentor. (For information on College Honors, see Honors Program, College of Letters and Science.) Honors students participate in the Honors Seminar and work toward the completion of a formal bachelor's thesis. Students whose theses are judged acceptable by the Honors Committee are awarded the degree with Honors or Highest Honors in Psychology. Interested students should consult the Psychology Undergraduate Advising Office early in their educational planning for further information and application forms. Developmental Disabilities Immersion Program

The Developmental Disabilities Immersion Program is co-sponsored by the Departments of Psychology and Psychiatry, and by the Office of Experimental Educational Programs. Each year there are approximately 12 undergraduate psychology students who take part in this program, which runs during the winter and spring quarters. Students participate in courses and research at Lanterman State Hospital (formerly Pacific State Hospital), a facility for mentally retarded citizens in Pomona, and do related field work by doing part-time work together at the UCLA Experimental Learning Center nearby.

During each of the two quarters, up to twenty units of course work related to the theme of developmental disabilities are offered by nine UCLA psychiatry and psychology faculty from Lanterman State Hospital, or from the main campus. Most of the courses in the Psychology/Psychiatry M180-181 series; courses from other departments (such as biology) may supplement these offerings. Among the courses fulfill Psychology undergraduate major requirements.

Student individualized research projects are part of the immersion experience. Each student teams up with a psychology supervisor (who is a graduate student or other Lanterman State faculty members) and designs a project commensurate with the student's interests and level of research experience. Many research projects tie in to ongoing research activities at the hospital and have been published in Pacific State Archives, the annual journal of student research.

To supplement their academic activities, students spend eleven hours a week working with the developmentally disabled by assisting teachers in the special education classes in nearby public schools or by helping supervise at sheltered workshops. They have the opportunity to lead classes, to produce learning activities, and to work individually with clients.

Group living intensifies the learning experience and presents increased opportunities for the development of interpersonal skills. The residential format accommodates the many extra program activities (workshops, guest lectures, etc.) related to the organizational theme of mental retardation.

Students interested in the program should contact the Psychology Advising Office or the Office of Experimental Educational Programs. 50 Dodd Hall. Freshmen are not eligible, and sophomores will be admitted only under exceptional circumstances. Applicants need not be psychology majors.

Graduate Program

The Department offers the Ph.D. degree, and the student may obtain the M.A. degree en route to the Ph.D. The Department does not admit candidates for the M.A. degree only. (See Requirements for the M.A. and Ph.D. Degrees below.) For the Ph.D. degree, all students are required to obtain thorough grounding in research methodology and psychological theory. Major specialized training is available in such areas as psychology as clinical, developmental, cognitive human memory, performance and engineering, computational and natural language, and thought), learning and behavior, measurement and psychometrics, personality, physiological and social psychology. Further training is available in community psychology, industrial, and psychophysiology.

Admission to the Graduate Program

In addition to meeting the general graduate requirements (for information on University requirements for graduate study, see University Bulletin. Graduate Admissions Status), students must be admitted to the Department by a selection committee within the Department. Graduate enrollment is limited and candidates are chosen on the following bases: (1) prior scholastic performance; (2) ratings and recommendations by professors and other individuals; (3) autobiographical material; (4) scores on the Graduate Record Examination.

NOTE: For key to symbols, see page 74.
(verbal, quantitative, and advanced test in Psychology) and on the Miller Analogies Test. Application materials may be obtained by writing to the Department of Psychology, Admissions Committee, University of California, Los Angeles, California 90024. The completed departmental forms, transcripts, and test scores must be received by December 15 for consideration for the following fall quarter. Graduate study is limited to a maximum of five years. Graduate students may extend this period of active study with permission from the Department and two of the doctoral committee, after which the student must take certain courses in research methods. A thesis is not required for the M.A. degree. A Ph.D. degree is not required for the M.A. degree; however, graduate students preparing for the Ph.D. normally qualify and apply for the M.A. degree after satisfactory completion of seven required courses in the core program, and two electives. The Department has Comprehensives Examination plan. (See Thesis or Comprehensive Examination.) A thesis is not required for the M.A. degree.

M.A. Degree. The Department does not admit candidates for the M.A. degree only, and the M.A. degree is not required of candidates for the Ph.D. degree; however, graduate students preparing for the Ph.D. normally qualify and apply for the M.A. degree after satisfactory completion of seven required courses in the core program, and two electives. The Department has Comprehensives Examination plan. (See Thesis or Comprehensive Examination.) A thesis is not required for the M.A. degree.

Ph.D. Degree. Eligibility for an oral qualifying examination and advancement to candidacy requires prequalifying in the departmental core courses; qualification in comprehensive examinations in areas of the candidate's specialization; and, for students in Measurement/Psychometrics, the passing of a reading comprehensive examination, and improved foreign language proficiency for substitute program of courses in research methods. The oral qualifying examination is administered by a committee of not less than five persons, three from the Department and two from other departments. Each student must complete a satisfactory doctoral dissertation approved by an adviser and other members of the doctoral committee, after which the student must pass a final oral examination on the dissertation and its implications.

Fellowships, Scholarships, Assistantships, and Stipends

The Department of Psychology has a variety of stipends available. These include teaching, and research assistantships, departmental traineeships, and University fellowships. Financial aids and work-study awards are also available through the Financial Aids Office.

Lower Division Courses

10. Introductory Psychology. A general introduction including the topics of learning, perception, thinking, personality, and sociability. 

Mr. Friedman, Mr. Holland, Mr. Houston.

15. Introductory Psychobiology. A survey of genetic, evolutionary, physiological, pharmacological and experimental factors affecting behavior. Using the comparative approach where appropriate, the principal topics include an understanding of man and his interaction with his environment will be emphasized. Not intended for Psychology majors. The Physiological Staff

41. Psychological Statistics. Prerequisites: Mathematics 2A-2B, or 3A, or 11A. Basic statistical procedures and their application to research and practice in various areas of psychology.

Mr. Comrey, Mr. Mount, Mr. Wikens.

95. Lower Division Seminars. Prerequisite: course 10. Open only to Freshmen and Sophomores. Intensive studies of selected topics of current psychological interest. See the Schedule of Classes for current topics and instructors. May be repeated more than once for credit. The Staff

Upper Division Courses

The following courses have only Psychology 10 as the prerequisite; plus the prerequisites listed with each course: 127, 130, 132A, 132B, 134, 135, 137A, 137B, 137C, 138, 148, 149, 170A, 184A-184B. For special topics courses such as 195, prerequisites will depend upon the instructor. The prerequisites to other upper division courses are all listed under the Prerequisite Major.

100. Research Methods in Psychology. Prerequisite: courses 10, 41. Introduction to research methods and critical analysis in psychology. Lecturing and lab topics will include: experimental and non-experimental research methods, statistical design and analysis as applied to a broad range of basic and applied research issues.

Mr. Bjork, Mr. Friedman, Mr. Thomas.

102. Historical and Systems of Psychology. Prerequisite: senior standing and permission of the instructor. An historical and systematic analysis of psychological thought and points of view. Mr. Jones

110. Fundamentals of Learning. Prerequisite: course 41. Experimental findings on animal and human conditioning, retention and transfer of training; the relation of learning and motivation. The course is intended to provide an empirical basis for theory and research in this area.

Mr. Bjork, Mr. Garcia, Mr. Holman.

111. Learning Laboratory. Prerequisite: course 41. Prerequisite or concurrent: course 110. Laboratory experience with techniques in the study of learning especially with animals.

Mr. Holman

112A. Human Learning. Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.


Mr. Padilla

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 will vary with the interests of the instructor and the class. May be repeated for credit with permission of the instructor.

115. Physiological Psychology. Prerequisite: Biology 2 and Psychology 41. For nonpsychology majors, Biology 1A, 1B and consent of the instructor. Integrative activities, receptor and effector processes in relation to neuromuscular structure and function. Facts, problems, and methods.

The Physiological Staff

116. Physiological Psychology Laboratory. Prerequisite: course 115. Prerequisite or concurrent: course 115. Laboratory experience with various topics in Physiological Psychology.

Mr. Deemore.

117. Seminar in Psychobiology. Prerequisite: course 115. Advanced topics in brain and behavior. May be repeated for credit with permission of instructor. Only one section of 117 may be applied as an upper division major elective.

Mr. Beatty, Mr. Krasne, Mr. Liebskind.

118A. Comparative Psychobiology. Prerequisite: course 115. A survey of the determinants of species-specific behavior including genetic influences and learning.

Mr. Arnold, Mr. Garcia

118B. Behavioral Pharmacology. Prerequisite: course 115. Experimental and theoretical treatment of drug-behavior relationships. Particular emphasis will be placed on the physiological mechanisms of drug action and drug interaction with neuronal function; drugs as tools to investigate various behavior processes such as mood, aggression, learning and motivation, experimental models of emotion. Mr. Ellison

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.

Mr. Novin

118D. Experimental Neuropsychology. Prerequisite: course 115. Studies the experimental analysis of higher brain functions. Special emphasis on attention, memory, perception and language.

Mr. Beatty

118E. Current Topics in Physiological Psychology. Prerequisite: course 115 or permission of instructor. Advanced topics of current interest in physiological psychology will be presented in depth. The emphasis will be in bringing students to a point where they can appreciate and evaluate current research papers on the topics covered. The course may be repeated for credit.

The Physiological Staff

120. Perception. Prerequisite: course 41. Methods and approaches to the study of perception. Experimental results, theoretical interpretations, and demonstrations.

Mr. Jones, Mr. Rader, Mr. Thomas.

121. Perception Laboratory. Prerequisite: course 41. Prerequisite or concurrent: course 120. Laboratory experience with various topics in perception.

Mr. Bjork, Mr. Bjork, Mr. Jones

1122. Language and Communication. Prerequisite: course 41 or consent of the instructor. A survey of current issues in the study of language and language learning. Focus will be on 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.

Mr. Carteret


Mr. MacKay

124. Current Topics in Perception. Prerequisite: course 120. Advanced consideration of special topics in perception. May be repeated for credit with consent of the instructor.

Mr. MacKay

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.

Mr. Abramson

126. Personality Laboratory. Prerequisite: course 41. Prerequisite or concurrently with special permission: course 125. Laboratory experience with various topics in personality.

The Physiological Staff

127. Abnormal Psychology. Study of the dynamics and prevention of abnormal behavior, including neuroses, psychoses, character disorders, psychosomatic reactions and other abnormal personality patterns.

Mr. Baker, Mr. Christensen, Ms. Hammen

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.

Mr. Mehbran
129B. Personality Dynamics. Prerequisite: course 125. Detailed conceptual examination of one or two areas of personality in which the main and interactive effects of personality and situational variables have been investigated. Personality is related to the study of psychological processes, particularly motivation. Includes an examination of current research literature. Mr. Weiner

129C. Personality and Cognition. Prerequisite: course 122A and consent of instructor. Language, language and memory and their implication for theories of personality. Mr. Weiner

129D. Special Topics in Personality. Prerequisite: course 125. Study of selected topics in the psychology of learning and perception with the interests of instructor and class. May be repeated for credit by consent of instructor.

Personality Staff

130. Developmental Psychology. An elaboration of the developmental aspects of physical, mental, social, and emotional growth from birth to adolescence. Ms. Greenfield, Mr. Leon, Mr. Madsen

131A-131B. Fieldwork in Child Psychopathology. Prerequisites: courses 133B or equivalent; course 170A or equivalent; experience with problem children. This course is designed to give undergraduate psychology students an opportunity to apply their knowledge in working with problem children including autistic, retarded, and school or behavior problem children. Experience given in a variety of community agencies. There will be two four-hour sessions per week.

The Staff

132A. Learning Disabilities. (1 to 1 courses) Prerequisite: upper division standing. Exploration of different learning and behavioral problems, emphasizing assessment and intervention approaches and the psychological impact of such approaches. Topics include the interaction of learner and environment, the socio-political nature of the classroom, the psychological impact of schooling, grades, and evaluations, process vs. goal focus in learning. The course may be taken for 4 or 5 units. The 5th unit is devoted to practicum experiences involving the Fernald School. All students planning to enroll subsequently in Psychology 132B must take the 5th unit option. Where possible, it is recommended that the course be taken on a pass/no pass basis.

132B. Learning Disabilities Laboratory. Prerequisite: 5 units of course 132A and consent of instructor. Participation in special activities at the Fernald School is made available to University students to further explore by means of a laboratory experience the topics involved in course 132A. The 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 Psychology 132A. A commitment of eight and one-fourth hours per week is expected (1 1/2 hour meeting plus 7 hours of activity). Where possible it is recommended that the course be taken on a pass/no pass basis.

Fernald Staff

133C. Psychological Development in the Adult Years. Prerequisite: course 130 or consent of the instructor. Theory and research on changes in motivation, aptitudes and abilities as related to genetics, age, sex and socio-cultural variables.

Mr. Jones

133D. Psychological Development of the Minority Child. Prerequisites: courses 127, 130, upper division Psychology standing and consent of the instructor. An examination of the theoretical issues and research problems relating to the development of minority children. Topics will include intelligence, identity, survival skills, family structure and community development. The Staff

133E. Current Issues in Developmental Psychology. Prerequisite: upper division Psychology standing. A critical examination of current issues in developmental psychology. The specific issues of concern will vary depending on the interests of the class and instructor. May be repeated with permission of the instructor.

Mr. Leon, Mr. Madsen

134. Psychology and Education. Prerequisites: course 130. Application of principles of cognitive development, learning and perception to educational problems. Topics will include general instructional issues, psychology of reading and mathematics, exceptional children, early childhood education, and education of the disadvantaged.

Mr. Jeffrey

135. Social Psychology. Prerequisite: course 41. The interrelationship between the individual social environment and his social environment. Social influences upon motivation, perception and behavior. The development and change of attitudes and opinions. Psychological analysis of small groups, social stratification and mass phenomena.

Mr. Collins, Ms. Peplau, Mr. Raven

136A. Social Psychology Laboratory. Prerequisite: course 41. Prerequisite or concurrent: course 135. Laboratory experience with topics as small group behavior, attitude measurement, and interpersonal influence.

Ms. Gutek, Mr. Kelley, Mr. Shure

136B. Survey Methods in Psychology. Prerequisite: course 135. The nature of attitudes and opinions, and their measurement by means of questionnaires and attitude scales and public opinion surveys. Class projects and fieldwork. Concurrently scheduled with Psychology 223. Mr. Centers, Ms. Gutek

137A. Group Behavior. Prerequisite: course 135. Psychology of interdependence, group membership, leadership and social influence.

Mr. Kelley

137B. Attitude Formation and Change. Prerequisite: course 135. Effects of propaganda, personal influence, socialization and social structure on private attitudes and public opinion.

Mr. Collins

137D. Special Topics in Social Psychology. Prerequisite: course 135. Study of selected topics in social psychology. May be repeated for credit with permission of the instructor.

Ms. Peplau, Mr. Raven, Mr. Shure

M137E. Work Behavior of Women and Men. (Same as Women's Studies M137E) Prerequisites: Psychology 10 or Women's Studies 100 and junior or senior standing. Examination of the behavior of men, and especially women. Covers such topics as antecedents of career choice, job finding, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence of work and family roles.

Ms. Gutek

137F. Interpersonal Relations. Prerequisites: course 135, consent of instructor. A study of the psychological facts, principles, problems and theories concerned with interactions and relationships between persons. Special focus is upon such phenomena as interpersonal attraction, exchange, aggression, conflict, control, power relations, and the initiation, development and dissolution of relationships.

Mr. Centers

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.

Mr. Sears

139. Psychology of Social Issues. Prerequisite: consent of instructor. Application of current psychological theory and research to the understanding of selected historical, social and political problems.

Mr. Fairchild

142. Advanced Statistical Methods in Psychology. Prerequisite: course 41. Chi square, special correlation methods, multiple regression, non-parametric methods, analysis of variance, reliability and validity.

Mr. Nihira

143. Foundations of Psychological Investigation. Prerequisite: course 41. Outline and examination of concepts associated with psychological investigations, research in psychology, research ethics, literature searches, analysis of research, and research methodology.

Mr. Middendorf

144. Psychological Tests and Evaluation. Prerequisite: course 41. Further study of the principles of measurement, stressing basic concepts applied to problems of test construction, administration and interpretation.

Mr. Broen

145. Personnel and Industrial Psychology. Introduction to the applications of psychology in industry and business.

Mr. Barthol

149. Problems in Human Relations. Understanding and managing the relations between individuals. Skills in interpersonal relations. Topics include the effective use of human resources; group management and leadership skills: interviewing, counseling, and conference techniques.

Mr. Barthol

150. Mathematical Models in Psychology. Prerequisite: Mathematics 3C or 31C, Engineering 10, or consent of the instructor. Review of theoretical models and the experimental evidence for these models in various areas of Psychology. Topics will include mathematical considerations of perception, learning, cognition, and personality. Recommended for Quantitative Psychology Majors.

Mr. Holman, Mr. Wicks

151*. Computer Applications in Psychology. Prerequisite: Engineering 10 and consent of instructor. Topics will involve junior and senior level computer programming, word processing and other computer software applications. Computer programming problems will be designed to model various situations and problems including decision making, decision making, perception, cognition and personality. Recommended for Quantitative Psychology Majors. Mr. Barthol, Mr. Wickens

152. Principles of Biotechnology. (Same as Engineering M107A) Prerequisite: third quarter biology. A critical survey of biotechnological applications to modern life sciences. An emphasis is placed on how physiological, psychological, and sociological factors affect the integration of man into environmental, informational and managerial systems by engineering means.

Mr. Lyman

155*. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M176 and Psychiatry M112) Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Group and individual projects will be supervised. Some of the uses of observations and their implications for research in the social sciences will also be discussed.

Mr. Gallimore, Mr. Turner, Mr. Weisner

162. The Psychological Approaches of Henry Murray: The Study of Biography. Prerequisite: consent of instructor. The study of the personality theory of Henry Murray, touching upon autobiographical writings and biographical materials; and personality as a dynamic system of personal values and ideals. Emphasis on the choric, dramatic, and supernormal aspects of personality. The roles of values in the study of personality, society and culture.

Mr. Shneidman

NOTE: For key to symbols, see page 74
M163. Death and Suicide: Psychological and Sociological Aspects. (Same as Sociology M158.) The definition and taxonomy of death; the role of permission and taboo's relating to death; the romanticization of death; the role of the individual in his own demise; the modes of death; development of ideas of death through the life span; ways in which ideas of death influence the conduct of lives; the impact of dying on the social structure surrounding the individual; preventive, intervening, and postventive practices in relation to death and dying; death-megalothiad; reality of the psychological autopsy; the death of institutions and cultures. Junior standing required. This course is offered on both a pass/not pass and letter grade basis. However, the instructor prefers that students selected the pass/not pass option.

Mr. Shneidman

M165. The Psychology of Sex Differences. (Same as Women's Studies M165.) This course considers psychological literature relevant to understanding contemporary sex differences. Some 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 career choice. *168. Environmental Psychology. Prerequisites: course 41 and 125. A research-oriented course which surveys theoretical and methodological issues which comprise the area of environmental psychology. The basic dimensions of emotional response to physical and social environments, measurement of information of rate of situations, and personality variables that are relevant to environmental behavior. Residential, empathetic needs, and work and recreational environments will be considered within a unified framework.

Mr. Mehrabian

170A. Behavior Modification. Prerequisite: upper division standing. Applied behavior theory; a study of the application of principles derived from learning theory, especially modeling and reinforcement, to behavior problems of retarded and autistic children, adult psychotic disorders, reading disorders, etc. Lectures, discussions and demonstrations.

Mr. Lovasa

170B. Fieldwork in Behavior Modification. Prerequisites: course 170A. Psychology Junior or Senior Major standing and permission of instructor. Advanced discussion and fieldwork in Applied Behavior Analysis, particularly in problems of retardation and autistic children, adult psychotic disorders, etc. Two hours discussion and eight hours fieldwork per week. May be repeated once for credit.

Mr. Lovasa

174. Interpersonal Process Analysis. Prerequisites: course 41, 127, and Junior and Senior 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 will integrate small group exercises with lecture and discussion. Additional laboratory work to be arranged.

Mr. Goodman

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 will include community development, community mental health problems, drugs, racism, and rehabilitation of prisoners.

The Staff

176. Experimental Community Psychology. Prerequisites: course 127 and consent of the instructor. Examination and experimental application of concept of the person in interpersonal and community psychology for understanding the behavior of individuals in structured social systems (communities, schools, mental hospitals, prisons, etc.).

Mr. Myers

177. Counseling Relationships. Prerequisite: Junior or Senior Psychology major standing and consent of the instructor with the following prerequisites: courses 10, 41, 127, and junior or senior standing. The course examines conceptual and empirical foundations of psychological counseling and compares alternative models of counseling processes. Emphasis is on counseling approaches in community mental health areas such as drug abuse, suicide prevention, and community intervention. *178. Human Motivation. Prerequisite: upper division standing required. Examination of current theories of human motivation, the experimental findings supporting the theories, and their applied value. Special attention will be emphasized, particularly the effects of success and failure on performance. Other topics include stress, conflict, frustration, and perceptions of control.

Mr. Weiner

M180A. Contemporary Problems in Mental Retardation. (Same as Psychiatry M180A.) Prerequisites: Psychology 10, 41, and 127 or 130, and enrollment in Immersion Program. Presentation of the concepts, issues and research techniques in the area of mental retardation. Biological, psychological and community questions concerning the causes and treatment of development disabilities as well as systems for the care and training of retarded individuals. Direct instruction, discussion, reading and discussion. To take concurrently with Fieldwork in Contemporary Problems in Mental Retardation.

Mr. Fluharty and the Staff

M180B. Contemporary Problems in Mental Retardation. (Same as Psychiatry M180B) Prerequisites: Psychology 10, 41, and 127 or 130, and enrollment in Immersion Program. Psycho-educational issues in mental retardation, relating literature to ongoing field experiences through lectures, discussion, media and 6 student papers. Mr. Baker

M181A & 181B. Fieldwork in Contemporary Problems in Mental Retardation. (Same as Psychiatry M181A & 181B) Prerequisite: concurrent enrollment in Psychology M180A-180B. Fieldwork experience to be taken concurrently with Contemporary Problems in Mental Retardation.

Mr. Fluharty and the Staff

M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychiatry M182A.) Prerequisites: Psychology 41 and enrollment in Immersion Program. Introduction of Statistical Method to better understand principles of statistical inference and appropriate testing methods. An introduction to the use of computers and various software packages is presented.

Mr. Guthrie

M182B. Advanced Design and Statistics. (Same as Psychological Method M182B) Prerequisite: Psychology M180A.

Mr. Eyman

M182C. Perception. (Same as Psychiatry M182C) Prerequisite: enrollment in Immersion Program. Human information processing, both physical and psychological with special emphasis on pathologies in the mentally retarded.

Mr. Galbraith

M182D. Current Issues in Mental Retardation. (Same as Psychiatry M182D) Prerequisite: enrollment in Immersion Program. Advanced topics in mental retardation. Courses may be taken only once for credit with permission of instructor.

The Staff

184A. Communication Disorders. Prerequisite: junior or senior standing. A clinical approach to speech problems with emphasis on stuttering and neurological disorders and their treatment.

Mr. Sheehan

184B. Laboratory in Communication Disorders. Prerequisite: consent of the instructor. Discussion, observation and supervised small group experience with stuttering and related problems in Psychology Speech Clinic.

Mr. Sheehan

190A-190B-190C. Honors Course. Prerequisite: completion of departmental Honors Program. Opportunity for the development and analysis of creative ideas through conceptual or experimental research and their implementation by experimental research. Information and applications may be obtained from the Psychology Undergraduate Advising Office. (For further information, see Honors Program in Psychology.)

Mr. Mount

195. Current Issues in Psychology. Prerequisite: Junior or Senior Psychology Major standing. Some sections may require permission of instructor. A study of selected current topics of psychological interest. See Schedule of Classes for topics and instructors to be offered each quarter. This course may be repeated with new topics as electives on the Psychology major. This course may not apply as an elective on the Psychology major.

The Staff

199. Directed Individual Research and Study. Prerequisite: Senior Psychology Major standing or junior psychology major. The physiological at least a 3.0 grade point average in the major, consent of the instructor and the Vice Chairman for Undergraduate Affairs. To be arranged with individual faculty members. In current is based on a written proposal outlining the proposed course of study. Students should consult the Psychology Undergraduate Advising Office, Franz Hall 1531A, for further information and approval forms. Note the following regulations concerning 199 courses: A student may take only one 199 course in Psychology per quarter. Only 4 units of 199 may be applied toward the Psychobiology Major elective course requirement. Only one Psychology 199 course may be taken for a letter grade: additional Psychology 199 courses may be taken in the Department.

The Staff

Graduate Courses

200A. Animal Learning and Behavior. This course will focus on basic principles and characteristics of learning and behavior, including Pavlovian conditioning, instrumental learning and species specific behavior. The Learning and Behavior Staff

200B. Human Learning and Behavior. Topics to be covered may include classical conditioning and the application of learning principles in the etiology and treatment of a variety of socially significant problems. Special emphasis will be placed on systematic desensitization of anxiety states, behavior modification programs for schizophrenic children and adults, behavioral pharmacology, control of autonomic behavior, among others.

The Learning and Behavior Staff

204C-204D. Seminar in Critical Problems in Learning. May be taken in any order. Critical problems will be drawn from such as the following:

204C. Psychophysiology of Attention and Learning. The study of research and theories concerned with the psychophysiology of attention and learning primates in which the areas covered include the orienting reflex, dominant focus, classical conditioning, and their implications for the psychophysiology of synaesthesia and psychotherapy.

Mr. Maltman

204D. Theories of Learning. Prerequisite: Psychology 200A or equivalent. Critical discussion of the major theories in learning and their current status.

Mr. Padilla

205A-205B. Physiological Correlates of Behavior. Prerequisite: course 115 or equivalent and consent of instructor. 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.

The Physiological Staff

210D. 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 electrophysiology bearing on perception, attention, drive, sleep-wakefulness, levels of consciousness etc. Some emphasis on pathology of behavior resulting from brain injury.
207A-207B. Seminar in Physiological Psychology. Prerequisite: course 115 or the equivalent.

Mr. Butcher, Mr. Ellison, Mr. Krasne

1208. Seminar in Comparative Psychology.

Mr. Arnold

1209. Laboratory Methods in Physiological Psychology. Prerequisite: consent of the instructor. Surgical and histologic instrumentation and experimental techniques, data analysis and interpretation.

Mr. Krasne

1210. Comparative Psychology. Prerequisite: course 115 or equivalent or consent of instructor. A survey of the determinants of species-specific behavior including genetic influences and learning.

Mr. Arnold

12M211. Mind and Brain in Evolution. (4 course) (Formerly numbered M265. Same as Psychiatry M265.) Prerequisite: consent of the instructor. This course reviews the fossil evidence on the organic evolution of the brain and the implications of that evidence for the evolution of mind and intelligence. Quantitative approaches are emphasized. Although some implications for cognitive psychology and individual differences are considered, the evolutionary analysis is "above the species level".

Mr. Jerison

212. Evaluation of Research Literature in Physiological Psychology. (4 course) Prerequisite: course 210 or consent of instructor. Topical interest will be presented by members of the seminar and their significance and methodology discussed and criticized in depth. Course may be repeated for credit.

Physiological Staff

218A-218B*-218C. 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.

Mr. Gergen

221. Seminar in Attitude Formation and Change. Prerequisite: courses 220, 227, or consent of the instructor. Social psychological research and theories on opinions and attitudes. Effects of mass communication, social factors in assimilation of information and influence, are considered. The Social Staff

222A-222B. Seminar in Group Behavior. Prerequisite: courses 220, 227, or consent of the instructor. Special topics in interpersonal relations and group dynamics. Power control, structure and organization, group functioning.

Mr. Kelley, Mr. Raven

223. Survey Research in Psychology. A critical review of the theory and practice of large-scale sampling, measurement, and analysis of beliefs, attitudes, and other psychological variables. Con- currently scheduled with Psychology 136B.

Ms. Gutek

224. Experimental Methods in Social Psychology. Prerequisite: courses 220, 227, or consent of the instructor. A critical review of laboratory techniques and the practice of experimental control and measurement encountered in research on social psychological phenomena.

Mr. Collins

225. Seminar: Critical Problems in Social Psychology. Prerequisite: courses 220, 227, or consent of the instructor. May be repeated for credit with consent of the instructor.

Ms. Gutek, Mr. Gerard, Ms. Peplau

12M228. Seminar in Political Psychology. (Same as Political Science M224C.) Prerequisite: course 220 or consent of the instructor. Examination of political behavior, political socialization, personality development, politics, racial conflict, and the analysis of public opinion on these issues.

Mr. Sears

1220A-229B. Issues in the Social Development of the Minority Child. Prerequisite: consent of instructor and graduate status. A critical evaluation and integration of existing research on the social psychological development of the minority child. The two-quarter seminar will focus on the socialization of cognitive and personality style, with the goal of empirically clarifying the issues raised in this area of developmental study.

Mr. Myers

232. Experimental Research on Human Sexual Behavior. (Formerly numbered 298.) Prerequisite: graduate standing. This course has been designed to teach students how to carry out research on sexual behavior. The content will include: theory construction, scale development, physiological and endocrinological implications, radio-immunoassay (measuring hormones in blood sample), ethical issues, methodological and statistical considerations, the measurement of sexual arousal, fantasy, and sexual dysfunction therapy. The format will be discussion oriented, with emphasis placed on operationalizing predictions concerning human sexual functioning.

Mr. Abramson

1233. Seminar in Environmental Psychology. Prerequisite: courses 215A, 215B and 235. Critical review of work in environmental psychology designed to explore basic dimensions of the analysis of man-environment relationships. The framework of analysis uses human emotional responses to environments as intervening variables linking specific stimuli qualities to a variety of concomitant responses. Mr. Mehrabant

1234. Personality and Cognition. A critical analysis of unified cognitive theories of personality combined with a consideration of relevant empirical literature. The work of such theorists as Kelly, Piaget, and Bruner will be considered along with experimental work in the areas of category theory, imagery, and meaning.

Mr. Mehraban

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.

Mr. Mehraban

1236. Personality Theories. A survey of the theoretical views of Freud, Jung, Adler, Rank, and various modern writers, including Allport, Lewin, Murray and Murphy.

236. Seminar in Mental Measurements.

Mr. Woodward

239. Experimental Research in Personality. (Same as Education M215.) Course will focus upon the perceived causes of success and failure, the antecedent conditions that give rise to various causal ascriptions, and the consequences of attribution. Expectancy, interpersonal evaluation, and overt action.

Mr. Weiner

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 clinic al and research with children.

Ms. Greenfield, Mr. Jeffrey

242A-242B. Seminar in Development Psychology. Prerequisite: course 240 or equivalent and consent of the instructor. This seminar may be taken in any order or may be repeated for credit.

Mr. Rader

242B. Cognitive Development.

Ms. Greenfield, Mr. Jeffrey

242C. Socialization.

Mr. Madsen

242D. Behavior Genetics.

1243A-1243B. Seminar in Practical and Societal Issues in Developmental Psychology. Prerequisites: course 240 or equivalent and consent of instructor. Concerns socialization processes in human development and implication for social policy, educational, research issues, and societal change. Credit and grade to be given only upon completion of 243B.

Mr. Nakamura

244. Critical Problems in Developmental Psychology. Prerequisite: course 240 or equivalent, and consent of the instructor. The course will be concerned with current problems and will vary from time to time depending upon the interest of the class and instructor. May be repeated for credit with consent of the instructor.

Mr.粉色, Mr. Jeffrey, Mr. Padilla

12M245. Personality Development and Motivation in Education. (Same as Education M217C.) Personality development and environmental conditions which form motivational patterns; self-concept, moral behavior, aggression; and sex differences, empathy, research and personality theory bearing on motivational problems in school settings and curricula development.

Mr. Feshbach

12M246. Psychological Aspects of Mental Retardation. (Same as Psychiatry M246.) Prerequisite: consent of instructor. Discussion of the psychological aspects of mental retardation to include: classification, description, etiology, theory, prevention, assessment, and treatment. Mr. Nakamura

1247. Prerequisite: course 247A or consent of instructor. Topics in human problem solving, information processing, automata, language cognition, and problem arising in the simulation of human behavior. Each student will undertake a substantial project of his own.

Mr. Carterette


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. Woodward

250B. Advanced Psychological Statistics. Advanced experimental design and planning of investigations.

Mr. Woodward

251A-251B-251C. Research Methods. Students will design a complete research project 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.

The Staff

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 and covariance. Examples 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

tor exaction and rotation. Applications of computers to computations in factor analysis.

Mr. Comrey


Ms. Holman


256. Seminar in Critical Problems in Psychological Measurement. Critical examination of issues in the major approaches to psychological measurement; relation in psychological methods and data to a general theory of measurement. Mr. Mount

257. Multivariate Analysis with Latent Variables. Prerequisites: consent of instructor. Introduction to models and methods for the analysis of data hypothesized to be generated by unmeasured latent variables, including latent-variable analogues of traditional methods in multivariate analysis. Causal modeling: theory-testing via the analysis of moment structures. Measurement models such as confirmatory, higher-order, and structured-means factor analytic models. Structural equation models including recursive and nonrecursive 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. Wikens

1259. Quantitative Methods in Cognitive Psychology. Prerequisites: courses 250A and 250B or consent of instructor. This course will consider a number of nonstatistical mathematical methods and techniques commonly used in cognitive psychology. Topics to be covered include Markov chains, other stochastic processes, queueing theory, information theory, frequency analysis, and other significant issues. Mr. Wikens

260A-260B. Proseminar in Cognitive Psychology. A survey of current theories and research in cognitive psychology. Topics include sensory processes, perception and thinking, memory, and problem-solving. Mr. Wikens

261. Perception. (Formerly numbered 211.) Prerequisites: course 260A or 260B, or consent of instructor. Concepts, theories, and research in the study of perception. Mr. Wikens

262. Human Learning and Memory. (Formerly numbered 208.) Prerequisites: course 260A or 260B, or consent of instructor. Contemporary theory and research in human verbal learning and memory; verbal and non-verbal learning and memory processes, the structure and organization of short- and long-term memory.

Mr. Bjork

263. Psycholinguistics. (Formerly numbered 260A.) Prerequisites: course 260A or 260B, or consent of instructor. Contemporary theory and research in psycholinguistics: coding and decoding, psycholinguistic parameters of language learning, speech recognition and perception. Ms. French

264. Judgment and Decision Processes. Prerequisites: course 260A or 260B, or consent of instructor. Contemporary theory and research in judgment and decision processes: psychophysical scaling, contextual effects on rating scales, models for the analysis of value decisions. Mr. Parodi

265. Thinking and Artificial Intelligence. Prerequisites: course 260A or 260B, or consent of instructor. Contemporary theory and research in thinking and artificial intelligence: cognitive models of knowledge representation, comprehension of linguistic information, memory. Theory and data from psychology, artificial intelligence, and linguistics will be considered.

266A-266E. Seminar in Human Information Processing. Prerequisites: course 260A and 260B or consent of instructor. Topics will vary with the interests of the instructor. May be taken in any order and may be repeated for credit.

266A. Perception. Mr. Thomas

266B. Human Learning and Memory. Mr. Bjork, Mr. Mackay, Mr. Parducci, Mr. Beatty

269. Seminar in Cognitive Psychology. Prerequisites: courses 260A and 260B or consent of instructor. A discussion of problems in Cognitive Psychology in the area of the field. May be repeated for credit.

The Cognitive Staff

270A-270B-270C. Foundations of Clinical Psychology. Prerequisites: concurrent enrollment in Psychology 271A-271B-271C. Open only to graduate students in clinical Psychology and approved minors in clinical psychopathology.

270A. Analysis of phenomenological, theoretical and research issues related to the etiology and mediating mechanisms in neurotic, affective, schizophrenic spectrum, and other personality disturbances. The Clinical Staff

270B. Principles and methods of psychological assessment and evaluation. The Clinical Staff

270C. Principles and methods of psychological assessment and evaluation. The Clinical Staff

271A-271B-271C. Clinical Psychological Methods. (Formerly numbered 272.) Prerequisites: concurrent enrollment in Psychology 270A-270B-270C. Open only to graduate students in clinical psychology and approved minors in clinical psychopathology. Procedures and applications in clinical psychology as applied in clinical and community settings. Mr. Wikens

272A-272B. Human Learning and Memory. Mr. Bjork

272C. Clinical Interventions for Psychological Disorders. Mr. Cohen, Mr. Goldstein

274A. 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. Rodnick

1281. Seminar in Behavior Therapy. Mr. Lovass

282. Interpersonal Forms Analysis of Human Interaction. Mr. Porteous, Mr. Wickens, Mr. Wickens. Conceptual and experimental study of six response modalities common to psychotherapy and everyday interaction: questions, silences, advisement, interpretation, self-disclosure, and reflection. Lab work will be performed in conjunction with lecture and seminar sessions.

Mr. Goodman

283. Psychopathology. A survey of the prominent psychological attributes of particular forms of psychopathology, including an analysis of the status of various theories concerned with the etiology and mediating mechanisms of personality, neurotic, schizophrenic spectrum, and affective disturbances.

Mr. Rodnick

1284. Seminar in Clinical Psychology and Communication. (Formerly numbered 277.) Mr. Sheehan

1M285. Comparative Psychopathology. (Same as Psychiatry M255.) Prerequisites: Some background in psychopathology, comparative psychology, zoology or comparative genetics and consent of the instructor. This course will explore those animal models of psychopathology most relevant to human clinical problems (i.e., schizophrenia, depression, phobias, anxiety states, drug abuse, aggression, sexual dysfunction, etc.). The interaction or convergence of social, biological, and environmental processes in determining these states will be emphasized. The relevance of the model to the understanding of homologous human conditions will be assessed.

Mr. Ervin, Mr. Garcia, Ms. Jamison


Mr. Broen

287. Critical Problems in Clinical Research Methodology. Prerequisites: courses 250A, 250B. Special problems of measurement and design in clinical research will be emphasized. Mr. Christensen

1288. Seminar in Research in Personality. (4 course) Prerequisites: graduate student in Personality. This course is meant to cover current research, theory and professional issues within the area of personality. A brown bag format will be utilized to foster intellectual exchange and discus-
454. Internship in Industrial Psychology. (Pr to 1 course) Prerequisite: consent of Mr. Bartholomew. The Staff

1485. Presentation of Psychological Materials. Supervised practicum in undergraduate teaching. Students will serve as discussion section leaders in selected undergraduate courses. Mr. Mr. Mr. Sheehan

501. Cooperative Program. (2 to 1410 Courses) Prerequisite: approval of UCLA Graduate Adviser and Graduate Dean. Approval of the campus Instructor, Department Chairman and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U. The Staff

Individual Study and Research

506. Directed Individual Research and Study in Psychology. (2 or 3 courses) One course required during second year of graduate study. One course in 596 or 599 required during each succeeding year of graduate study. (Terminal M.A. candidates are excused from these requirements.) The Staff

507. Individual Studies. (2 to 3 courses) Intended primarily for preparation for Ph.D. qualifying examinations. May be required by some area committees as prerequisite for taking qualifying examinations. The Staff

509. Research on Dissertation. (2 to 3 courses) Prerequisite: Satisfactory performance in qualifying examinations. One course required during each year following passing of qualifying examinations. The Staff

Psychology Clinic

The Psychology Clinic was established in 1949 in Franz Hall by the Department of Psychology as a training and research center in clinical psychology. It has specialized facilities for the investigation, assessment and treatment of a variety of psychological, emotional and behavior problems of children, adolescents and adults of the greater Los Angeles community.

The Clinic provides a broad range of psychological services to clients including individual, group and family therapy, behavior modification procedures, consultation and supervision to agencies in the community. The concern of the clinic with systematic investigation leading to new knowledge and the improvement of clinical psychological procedures is in keeping with the orientation of the clinic's work. The number and types of clients served are consonant with this goal. Apart from those investigations related directly to professional services to clients of the clinic, there are numerous programs in the clinic which reflect the current interests of the staff, such as 1) communication patterns in the family constellation relevant to both the development and the amelioration of behavioral disturbance; 2) the development of innovative techniques of therapy and behavior modification which are effective in treating various psychological problems and 3) the exploration of new modes of delivering psychological services to currently underserved segments of the population.

Such service and research functions are basic to the professional education and training of clinical psychologists as an integral part of their graduate study in the Department of Psychology. The Clinic also provides training opportunities to students of other health professional disciplines.

Fernald School

Fernald (formerly the Psychology Clinic School), a facility of the Department of Psychology, was established in 1921 as a research and training center focusing on learning problems. The uniqueness of the facility lies in its lively experimental atmosphere, in its varied population, in the scope of its training, demonstration and research programs and in its interdisciplinary approaches in which the talents of teachers, clinical psychologists, and school counselors are integrated and brought to bear upon the student's learning difficulties. The facility's current focus is on those children with average or better intelligence who are functioning significantly below the grade level in basic school skills and school achievement.

Fernald offers observation, classroom participation and intervention, research and other training opportunities to graduates and undergraduates in many fields, notably psychology and education. Fellowships are available to graduate students in psychology and education. Three courses focusing on learning disorders, Psychology 132A, lecture, 132B and 132C, laboratory, are specifically associated with the Fernald School programs. Psychology 132A provides an overview of the field of learning problems. Psychology 132B affords the University student the unique opportunity to observe and to participate under supervision in selected activities of the Fernald School. Psychology 132C allows further and more independent participation in working with learning problems.

Fernald's population includes approximately 65 students, enrolled in classroom programs, and an average of 80 children, adults and adolescents. Divisions are seen in individual and small group tutoring programs. In addition, a substantial number of individuals are seen for an initial assessment and diagnostic process. This process is designed to help them formulate an appropriate program of action in dealing with socio-emotional and academic concerns. The research activities, based on these populations, are directed toward an analysis of the processes of learning difficulties and toward an evaluation of the effectiveness of various psychological and educational programs.

Spanish Speaking Mental Health Research Center

The Spanish Speaking Mental Health Research Center (SSMHRRC) was established in 1973 to conduct basic and applied research on the mental health needs of the Spanish-speaking population. Supported by the National Institute of Mental Health, the SSMHRRC is one of only two centers in the United States to provide an interdisciplinary research environment for Hispanic mental health scholars, students, and professionals at the national level. The Center collects and disseminates scientific information through its Clearinghouse, which publishes monographs, occasional papers, and bimonthly research bulletins. It also maintains a computer-based bibliographic storage and retrieval system to facilitate access to the literature in this field. The Center sponsors students in a wide variety of mental health disciplines, maintains close ties with community organizations, and promotes the increased representation of Hispanic professionals in mental health and social services.

PUBLIC HEALTH

(Office Department, 16-035 School of Public Health)

Abdelmonen A. Alfii, Ph.D., Professor of Biostatistics and Biomathematics.
Roslyn B. Altman-Slater, Ph.D., Professor of Nutrition and Chemical Engineering.
Robert P. Atkins, M.D., M.P.H., Professor of Epidemiology in Residence.
Lawrence R. Ash, Ph.D., Professor of Public Health.
Abdelmonen A. Afifi, Ph.D., Professor of Biostatistics and Biomathematics.
Judith Blake, Ph.D., Fred. H. Bizby Professor of Population Policy and Sociology.
Roslyn B. Altman-Slater, M.P.H., Professor of Public Health.
Virginia A. Clark, Ph.D., Professor of Biostatistics and Biomathematics.
Irving Fries, M.D., M.P.H., Professor of Obstetrics and Gynecology and Public Health.
Rolando Armijo, M.D., M.P.H., Professor of Public Health.
Olive Jean Dunn, Ph.D., Professor of Biostatistics and Biomathematics.
Carl E. Hopkins, Ph.D., M.P.H., Professor of Public Health.
Snehalata B. Kar, Ph.D., Professor of Public Health.
Alfred H. Katz, M.A., D.S.W., Professor of Public Health and Social Welfare.
Robert A. Mah, Ph.D., Professor of Public Health.

NOTE: For key to symbols, see page 74
Upper Division Courses

M12. Human Genetics and Reproduction. (Same as Biostatistics 120A.) Lecture, four hours. Prerequisites: One year of college biology; survey for general student of normal and abnormal development and basic principles. Topics include genetics, human reproduction, problems of pregnancy and its outcome, birth defects, prenatal diagnosis, and genetic counseling. Emphasis on introducing facts for current discussions of ‘New Genetics’ and scientific and ethical questions regarding reproduction and development. The Staff

18. Principles of Healthful Living. (Formerly numbered 44.) Lecture, four hours. Analysis of health care issues as related to the health care consumer and the health care delivery system. Includes identification of health needs, and clarification of personal responsibilities for health. Ms. Richards

100A. Introduction to Biostatistics. (Formerly numbered 106A.) Lecture, three hours, laboratory/quiz, two hours. Prerequisites: course 100B or equivalent and consent of instructor. Introduction to analysis of variance, linear regression, and correlation analysis. Students may not receive credit for this course and course 101B. The Staff

100B. Introduction to Biostatistics. (Formerly numbered 106B.) Lecture, three hours, laboratory/quiz, two hours. Prerequisites: course 100B or equivalent and consent of instructor. Introduction to analysis of variance, linear regression, and correlation analysis. Students may not receive credit for this course and course 101B. The Staff

100C. Introduction to Biostatistics. (Formerly numbered 106C.) Lecture, three hours, laboratory/quiz, two hours. Prerequisites: course 100B or equivalent and consent of instructor. Introduction to concepts of probability used in biomedical sciences. Enumeration statistics and non-parametric statistics. Comparison of non-parametric with analogous parametric tests. Discussion of power and sample size. The Staff

101A. Basic Biostatistics. (Formerly numbered 163A.) Lecture, three hours, quiz, one hour. Prerequisites: Mathematics 31C or equivalent. Basic concepts of statistical analysis applied to design of experiments. Students may not receive credit for this course and course 101B. The Staff

101B. Basic Biostatistics. (Formerly numbered 163B.) Lecture, three hours, quiz, one hour. Prerequisite: course 101A. Topics include elementary analysis of variance, simple linear regression and correlation, non-parametric methods, elements of sequential analysis. Students may not receive credit for this course and course Public Health 100B. The Staff

102. Demography: Introduction to Demographic Materials and Methods. (Formerly numbered 161.) Lecture, three hours, laboratory, two hours. Prerequisites: course 100B or equivalent and consent of instructor. Topics include human population; description of human populations; calculation and interpretation of statistics used to measure and describe population growth, structure, geographic distribution, mortality, morbidity and fertility. Ms. Mickey

110. Introduction to Medical Science. (Formerly numbered 101.) Lecture, four hours. Prerequisites: one course in chemistry or other natural science. One year sequence in biology, physiology or other
biological science recommended. An introduction to normal human physiology and disease processes.

The Staff

111. Human Disease and Public Health. (Formerly numbered 104.) Lecture, three hours; discussion, three hours. Prerequisites: upper division standing and one course in biological or physical science. Study of the causes, opportunities 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. (Formerly numbered 147.) Lecture, two hours; laboratory, four hours. Prerequisite: course 110 or 111. Introduction to epidemiology including factors governing health and disease in populations. The Staff

113. Infectious Diseases and Public Health. (Formerly numbered 150.) Lecture, three hours. Prerequisites: upper division standing and one course in biological or physical science. Infectious diseases of public health importance emphasizing modes of transmissions and control of etiologic agents.

Mr. Schacher

114. Genetics and Public Health. (Formerly numbered 152.) Lecture, four hours. Prerequisites: courses M12 or Biology 134, course 100A, 112 and consent of instructor. Discussions of human medical and population genetics and focus on epidemiologic and public health aspects of genetic disorders. The Staff

M115. Disease Problems of Socio-Economic and Political Impact in Latin America. (Same as Latin American Studies M155; formerly numbered M155.) Lecture, six hours; discussion, six hours. Prerequisite: one upper division course in Latin American Studies Program. Social, economic, and political impact of important disease problems in Latin America. Mr. Work

130. Health Services Organization. (Formerly numbered 132.) Lecture, four hours. Prerequisites: four units of social sciences. Structure and function of American health care system; issues and forces shaping its future. Mr. Torrens

131. Structure and Function of Health Care Facilities. (Formerly numbered 107?) Lecture four hours. Prerequisite: one course in Social Sciences. Introduction to structure, organization and function of health care facilities. Mr. Ross

132. Hospitals and their Management. (Formerly numbered 107?) Lecture four hours. Prerequisite: one course in Social Sciences. Introduction to structure and organization of hospitals; hospital industry and its environment; managerial processes in hospitals, and major issues confronting hospital industry.

134. Introduction to Comprehensive Health Planning. (Formerly numbered 136.) Lecture, four hours; field work, four hours. Prerequisites: one upper division course in microeconomics, statistics, calculus, or political science: Concepts underlying health planning, state of the art and some applications. The Staff

M135. Organization of Medical Practice. (Same as Medicine M158; formerly numbered M158.) Lecture, two hours. Prerequisites: course 130 and graduate standing in Public Health, Medicine, or Nursing. Education and coordinating functions of medical practitioners. Organization of medical practice: solo, group, HMO. Doctor-patient relationships, medical ethics, economics, professional liability, health care evaluations.

Mr. Goodman

137A. Health Problems and Programs in Africa. (4 course) Lecture, one hour; discussion, one hour. Prerequisites: any one of the following: courses 103, 127; History 125 (A, B, or C), 127 (A or B), 128 (A or B), 240N; Political Science 166 (A, B, or C), 250E; Anthropology 107 (A or B), 113, 208, 258, 269; Geography 112, 188, 189, 289. Consideration of traditional beliefs about illness and treatment, factors affecting health status in Africa, major health problems and some programs for their alleviation.

Mr. Blumenfeld, Mr. Nicholas

137B. African Health Sector Analysis Seminar. (4 course) Seminar, two hours. Prerequisites: any one of the following: course 101; History 125 (A, B, or C), 127 (A or B), 128 (A or B), 240N; Political Science 166 (A, B, or C), 250E; Anthropology 107 (A or B), 113, 208, 258, 269; Geography 112, 188, 189, 289; course 137A prior or concurrently. Approach is that of a multi-disciplinary team analyzing the health sector of a representative African country to determine needs and priorities for external aid.

Mr. Blumenfeld, Mr. Nicholas

139. Quantitative Methods for Decision-making in Health Services. (Formerly numbered 109.) Lecture, four hours. Prerequisites: course 100A, 110, 130, and consent of instructor. Decision theory and use of statistics in decision-making. Decision theory includes: frameworks for decision-making and control, decision under uncertainty, utility theory, Bayes' theorem, and value of information. Statistical topics include: communicating with statistics, measures of association, regression, analysis of variance, and forecasting.

Ms. Cretin

140A-140B. Health Record Science. (Formerly numbered 102A-102B.) Lecture, two hours; laboratory, three hours. Prerequisites: Sociology 4A or equivalent and consent of instructor. A is required for B. 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.

Ms. Johnson

150. Environmental Health. (Formerly numbered 110.) Lecture, three hours, field work, one hour. Prerequisites: Chemistry 11A, Biology 4A, Mathematics 1A, Psychology 1A, or equivalent and consent of instructor. A is required for B. 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. The Staff

152. Biological Effects of Air Pollution. Lecture, three hours; discussion one hour. Prerequisites: Biology 4A and 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.

Ms. Valentine

153. Public Health Microbiology. Lecture, three hours; laboratory, six hours. Prerequisites: Biochemistry 3A, and consent of instructor. Basic principles and laboratory procedures employed in the provision of sanitary elements to the community, including food and milk, water supply and waste disposal, soil and environmental effectuators.

Mr. Mah

154. Environmental Management. (Formerly numbered 145.) Lecture, four hours; discussion, one hour. Prerequisites: Economics 100, Political Science 142 or 143 or equivalent, and consent of instructor. Introduction to principles and techniques used for organization, analysis, and evaluation of environmental policies and programs.

Mr. Davos

160. Principles of Food and Nutrition. (4 course) (Formerly numbered 111.) Lecture, two hours. Prerequisites: one course in chemistry or physiology, and consent of instructor. Principles of nutrition and nutritional requirements for normal growth and development.

Ms. Davos

161. Nutrition and Health. (4 course) (Formerly numbered 193.) Lecture, two hours. Prerequisites: course 110 or 111 or equivalent, and consent of instructor. Basic concepts of physiology, nutrition and practice for students in health science curricula.

Mr. Alfin-Slater, Mr. Jelliffe

162. Nutrition. (Formerly numbered 113.) Lecture, three hours. Prerequisites: organic chemistry, Biology 4B or equivalent. Metabolic aspects of carbohydrates, fats, proteins, vitamins and minerals. Dietary requirements, intake and absorption of nutrients and vitamins.

163. Biologic Processes. (Formerly numbered 114A.) Lecture, three hours. Prerequisites: one year of organic chemistry, Biology 4B. Metabolism of carbohydrates, proteins and other nitrogen compounds, and lipids; role of hormones and enzymes in metabolism; physiological processes.

Ms. Alfin-Slater

164. Principles of Food Analysis. (4 course) (Formerly numbered 108.) Lecture, two hours; laboratory, three hours. Prerequisites: Chemistry 22. Theory and practice of qualitative and quantitative analysis in the analysis of foods.

Ms. Alfin-Slater

165. Clinical Nutrition Laboratory. (4 course) (Formerly numbered 118.) Discussion, one hour; laboratory, four hours. Prerequisites: course 164 or equivalent, one year organic chemistry, Biology 4B. Two-hour laboratory for determining the nutritional constituents of blood and urine.

The Staff

166A. Therapeutic Nutrition. (4 course) (Formerly numbered 120A.) Lecture, two hours. Prerequisites: courses 162, 163 or equivalent, and consent of instructor. Recent findings in field of diet and disease and modifications made in normal diet for pathological conditions.

Ms. Carlisle

166B. Therapeutic Nutrition. (4 course) (Formerly numbered 120B.) Lecture, two hours. Prerequisites: course 166A and consent of instructor. Recent findings in field of diet and disease and modifications made in normal diet for pathological conditions.

Ms. Carlisle

167. Biologic Processes: Physiology and Nutrition. (Formerly numbered 114B.) Lecture, three hours. Prerequisites: course 163 and consent of instructor. Metabolism of lipids, carbohydrates and proteins; role of hormones and enzymes in metabolism; physiology processes occurring in various organs.

Ms. Alfin-Slater

170. Family Health and Biosocial Development. Lecture, two hours; discussion, two hours. Prerequisites: Psychology 130 or Education 125 or Physiology 100 or equivalent, and consent of instructor. Biosocial factors related to normal human physical, intellectual and emotional growth and development from family and public health perspective.

Mr. Katz

171. Child Health in the USA. Lecture, three and one-half hours; discussion, one-half hour. Prerequisites: course 170 and consent of instructor. Examination of health care of infants, children and adolescents in the USA and discussion of priorities, approaches, services and policies which exist or could be developed to deal with these problems.

Ms. Neumann

172. Introduction to Reproductive Health. Lecture, two hours; discussion, two hours. Prerequisites: course 110 or equivalent and consent of instructor. Review of reproductive physiology, normal and abnormal pregnancy, family planning, male and female-specific health problems including health care and psycho-social considerations.

The Staff

173. Population, Ecology and Health. (Formerly numbered 115.) Lecture, four hours. Prerequisites: course 110. Introduction to major national and international aspects of current population issues. Particular attention paid to economic development, ecology, and policy conflicts as related to population growth and decline and family planning and reproductive health.

Mr. Scrimshaw

174E. Health, Disease and Health Services in Latin America. (Formerly numbered 174.) Lecture, four hours. Prerequisites: one upper division course in Latin American Studies or course 110. Introduction to health, disease and health care in Latin America with emphasis on epidemiology, health administration, medical anthropology and nutrition.

Ms. Scrimshaw

174H. Public Health in the People's Republic of China. (4 course) Lecture, two hours. Prerequisites: course 130 or equivalent or two upper
division or graduate courses in social or behavioral sciences or medical sciences and consent of instructor. (Formerly numbered 142.) Lecture, three hours. Prerequisites: Economics 1 and 2, or 100. Upper division or graduate standing. World food sources; major food groups, human food requirements and consumption; food in developing economies; international movement of foods; interrelations of foods, population, and nutrition. Mr. Rada

186. The World’s Population and Food. (Formerly numbered 142.) Lecture, three hours. Prerequisites: Economics 1 and 2, or 100. Upper division or graduate standing. World food sources; major food groups, human food requirements and consumption; food in developing economies; international movement of foods; interrelations of foods, population, and nutrition. Mr. Rada

176. Human Sexuality and Sexual Health. (Formerly numbered 148.) Lecture, three hours; discussion, one hour. Prerequisites: two courses in behavioral and/or life sciences, and consent of instructor. Interdisciplinary review of sexual physiology and sexual behaviors is followed by consideration of pregnancy and its prevention, sexual dysfunction, and sex-transmitted disease. Psychology, culture, politics, and health care are included. Mr. Roemer

178. Legal Aspects of Family Health. (Formerly numbered 149.) Lecture, two hours. 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

180. Introduction to Public Health. (Formerly numbered 100.) Lecture, four hours; assignments, eight hours. Prerequisites: one unit in life sciences. Principles of Public Health. Analysis of demographic, professional, organizational, fiscal, social, and research features. Covers health programs, environmental health, consumer protection, and consumer protection fields. Mr. Wilner

181. Introduction to Social Research Methods in Health. (Formerly numbered M245A.) Lecture, three hours; discussion, one hour. Prerequisites: one course in social sciences. Basic concepts in behavioral sciences pertinent to health and medical care; cultural and social class variations in health status; health team and community relations; community decision-making in public health. Mr. Berkmanovic, Mr. Goldstein

183. Community Health Education. (Formerly numbered 141.) Lecture, two hours; discussion, two hours. Prerequisites: one course in social sciences or health science, and consent of instructor. Problems of social, economic, and cultural origin as they apply to sound community organization in the public health field. Examination of health education activities of professional, voluntary, and governmental health agencies and analysis of their interrelationships. Mr. Washington

184. Health and Consumer Economics. (Formerly numbered 143.) Lecture, three hours. Prerequisites: Economics 1 and 2, or 100. Upper division or graduate standing. To orient to health problems and costs on individual and family incomes and expenditures, including productivity and dependency. Mr. Rada

185. Economics of Health and Medical Care. (Formerly numbered 144.) Lecture. three hours; discussion. 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

187. Education for Teacher Credentials. (½ course) (Formerly numbered 138.) Lecture, two hours. Prerequisite: admission to the teacher education credential program. The teaching-learning process as applied to personal and community health. Content includes psychoactive drugs (alcohol, tobacco, and narcotics), human sexuality, and community health resources. Required for the California State Teaching Credential. Mr. Washington

188. Community Mental Health. (Formerly numbered 139.) Lecture, four hours. Prerequisites: one upper division course in Psychology, Sociology, or Anthropology and consent of instructor. Concepts. Epidemiology, program planning and legal aspects of mental disorders. Mr. Chang

189. Death, Suicide and Homicide: Public Health Perspectives. (Formerly numbered M207A.) Lecture, two hours; field trips, outside readings and reports, one hour. Prerequisites: courses 110, 112, 182, or equivalent and consent of instructor. Identification and discussion of the role of public health in suicide prevention, thanatology and death and dying. Lectures will range from vital statistics to the role of the behavioral scientist in prevention intervention and postvention of suicide and homicide. Ms. Allen

190. Special Studies. (½ or 1 course) Prerequisite: senior standing; consent of the instructor and Department Chairman. Consent is based on a written proposal outlining the course of study. Individual faculty supervision. Study to be structured by instructor and student at time of initial enrollment. Undergraduate or graduate students may enroll in only four units each academic period. Only four units may be counted toward the minimum course requirements for a master's degree. Offered on a letter-graded basis. The Staff

Graduate Courses

200-A 200B 200C Biostatistics. (Formerly numbered 240A-240B-240C.) Lecture, three hours; discussion, one hour (200A only). Prerequisites: course 100C, Mathematics 31C, 152B or equivalent. With consent of instructor certain prerequisites may be taken concurrently or waived. Quantitative methods in public health, medical and biological sciences; statistical theory and application to problems in design and analysis of medical experiments and surveys; mental illness, preventive medicine. Mr. Chang

M201E Special Topics: Statistical Methods for Categorical Data. (Same as Biostatistics M231.) Lecture, three hours; discussion, one hour. Prerequisites: course 100B or 101B, Mathematics 150C or 152B or equivalent and consent of instructor. Further analysis of categorical data; discussion and illustration of their applications and limitations. The Staff

201F Special Topics: Distribution Free Methods. (Formerly numbered 268B.) Lecture, three hours; discussion, one hour. Prerequisites: course 100C, 101B, Mathematics 150C or 152B, or consent of instructor. Theory and applications of distribution free methods in biostatistics. The Staff

201G Special Topics: Statistical Simulation Techniques. (Formerly numbered 268C.) Lecture, three hours; discussion. Prerequisite: Mathematics 150C or 152B, a course in computer programming, course 100C, and consent of instructor. Techniques for simulating important statistical distributions with applications in biostatistics. The Staff

201H Special Topics: Finite Population Sampling. (Formerly numbered 268D.) Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 150C or 152B or course 100D. Theory and methods for sampling finite populations and estimating population characteristics. The Staff

20J Special Topics: Supplemental Topics. (Formerly numbered 268E.) Lecture, three hours; discussion, one hour. Prerequisites: consent of instructor. Topics in Biostatistics not covered in other courses. The Staff

21K Survival Distributions. (½ course) (Formerly numbered 226.) Lecture, two hours. Prerequisites: course 100C or 152B, Mathematics 152B or 150C or equivalent. Analysis of survival distributions with non-censored and censored data. Ms. Clark

21L Advanced Demography. (Formerly numbered 227.) Lecture, three hours. Prerequisites: course 102 or equivalent. Calculation of estimates of stable population parameters. Application of stable population concepts to the estimation of fertility rates in absent vital registration data. Consequences of changes in vital rates. Applications for policy. Ms. Mickey

21M Introduction to Statistical Methods for Biological Assays. (Formerly numbered 244A.) Lecture, four hours. Prerequisites: course 100C and Mathematics 150C or 152B. Topics include standard statistical procedures, a survey of relative potency, density of microorganisms and density of radioactivity, models used for these procedures and statistical considerations for designing such assays. Mr. Chang

204E Seminar in Biostatistics. (½ course) (Formerly numbered 269.) Discussion, two hours. Prerequisites: course 200B, two courses from Public 201E-201J series, and consent of instructor. Students present and discuss current developments of methodology and problems in applications of Biostatistics. The Staff

204F Advanced Seminar in Biostatistics. (½ course) (Formerly numbered 267.) Discussion, two hours. Prerequisites: course 200C and consent of instructor. Students and faculty present and discuss current research in Biostatistics. May be repeated for credit. The Staff

M205A M205B M205C Linear Statistical Models. (Same as Mathematics M279A-279B-279C; formerly numbered M241A-241B-241C.) Lecture, three hours. Prerequisites: course 100C or 152B, and course 100C or equivalent. Topics include linear algebra, applied to linear statistical models, distribution of quadratic forms, the Guass-Markov theorem, fixed and random component models, balanced and unbalanced designs.

Mr. Afifi, Mr. Chang

206A 206B Multivariate Biostatistics. (Formerly numbered 242A-242B.) Lecture, three hours. Prerequisites: course M205A or equivalent. Multivariate analysis as used in biological and medical situations. Topics from component analysis, factor analysis, discriminant analysis, analysis of dispersion, canonical analysis. The Staff

207E Advanced Topics—Stochastic Processes. (Formerly numbered 243A.) Lecture, three hours. The course will present the main upper division mathematics including statistics and probability. Stochastic processes applicable to medical and biological research. Ms. Dunn, Mr. Massey

207F Advanced Topics—Mathematical Epidemiology. (Formerly numbered 243B.) Lecture, three hours. Prerequisites: course 207E or equivalent. Courses in upper division mathematics including statistics and probability. Mathematical theory of epidemiology with deterministic and stochastic models, and problems involving application of the theory. Mr. Massey

207G Advanced Topics—Statistical Genetics. (Formerly numbered 243C.) Lecture, three hours. Prerequisites: courses in upper division mathematics including statistics and probability. Introduction to statistical genetics. Ms. Dunn
207H. Statistical Methods for Research Biological Assays. (Formerly numbered 244B.) Lecture, four hours. Requires: course 210M. Three-hour laboratory, three hours. Statistical methods developed for research assays for which the standard procedures do not apply.

Mr. Chang

M207L. Computational Statistics. (Same as Biometrics M280 and Mathematics M280.) Formerly numbered 207L. Lecture, four hours. Requires: course 100B or consent of instructor. Three-hour laboratory, three hours. Introduction to theory and design of statistical programs; pivoting and other techniques used in stepwise regression, non-linear regression, algorithms, algorithms for balanced and unbalanced analysis of variance including the mixed model, iterative rescaling and other methods for log-linear models.

Mr. Jennrich

210. Principles of Infectious Disease Epidemiology. (Formerly numbered 204.) Lecture, three hours. Prerequisites: one year sequence of biology and chemistry, course 100A or equivalent, 112, and consent of instructor. Ascertainment of infection, transmission and epidemicological parameters rather than clinical and pathological aspects. Specific diseases discussed in depth to illustrate epidemiologic principles.

Mr. Barr

211A. Advanced Epidemiology. (Formerly numbered 246A.) Lecture and discussion, four hours. Prerequisites: course 100B may be taken concurrently), 110, 112, one year of biological sciences. Graduate standing and consent of instructor. Discussion of study design, research methodology, problems in data presentation, and analytic techniques used in epidemiologic research.

Mr. Detels and the Staff

211B. Advanced Epidemiology. (Formerly numbered 246B.) Lecture and discussion, four hours. Prerequisites: course 211A. Graduate standing and consent of instructor. Continuation of Public Health 211A; concentration on selection of appropriate research design, problems of measurement, and analytic techniques commonly used in epidemiological research and the Staff.

211E. Epidemiology of Cardiovascular Disease. (Formerly numbered 205.) Lecture, two hours; discussion, two hours. Prerequisites: course 211A and consent of instructor. Epidemiology of cardiovascular disease: methods of study, implications of prevention and controversial issues as reported in current literature.

The Staff

212F. Epidemiology of Perinatal Problems. (Formerly numbered 213.) Lecture, two hours; discussion, two hours. Prerequisites: course 121 or Biology 121 and consent of instructor. Epidemiology of perinatal problems. Considered distribution, determinants and significance of perinatal problems including fetal death, prematurity, genetic diseases, congenital malformations and mental retardation.

Mr. Vischar

212G. Epidemiology of Neurologic Disease. (Formerly numbered 215.) Lecture and discussion, two hours. Prerequisites: course 211B or equivalent and consent of instructor. Epidemiologic characteristics of selected chronic neurologic diseases with a special emphasis on etiology and possible control.

Ms. Vischar

212H. Epidemiology of Arthropod-borne Disease. (Formerly numbered 267.) Lecture, four hours. 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

213. Environmental Epidemiology. Lecture and discussion, two hours. Prerequisites: courses 100C, 201, 221, 232, and consent of instructor. Methodologic problems and approaches of epidemiology of assessing the health impact of major types of environmental exposure.

Mr. Spivey

214. Infectious and Tropical Disease Epidemiology. Lecture, three hours; discussion, three hours. Prerequisites: courses 100A, 112, 113 or equivalent, and consent of instructor. Epidemiologic aspects of infectious and tropical diseases in developing countries including those with direct or contact mode of spread and those vector borne.

Mr. Schacher. Mr. Work

215A. Epidemiology of Cancer. (Formerly numbered 201A.) Lecture and discussion, four hours. Prerequisites: courses 100A, 112, and consent of instructor. Etiological concepts and mechanisms Pathogenesis, diagnosis and classification of neoplastic diseases. Epidemiologic principles and methods of study in cancer epidemiology. Models of causal association.

Ms. Stern


Ms. Stern

216A. Ecology of Exotic Diseases. Lecture, two hours; discussion, six hours. Prerequisites: course 112, Bacteriology 101 and 105 or equivalent, and consent of instructor. Geographic pathology and behavioral causes of exotic diseases, epidemiologic, ecological and biological determinants of the distribution, exposure to and occurrence of exotic diseases.

Mr. Work

216B. Viral Diseases of Man. Lecture, two hours; laboratory, six hours. Prerequisites: course 216A or equivalent and consent of instructor. Viral and rickettsial diseases of man. Natural history, epidemiology, diagnosis, control, and prevention of these diseases especially in tropical situations.

Mr. Work

218A. Protozoal Diseases of Man. Lecture, four hours. Prerequisites: Bacteriology 101 or equivalent, or Biology 105 or equivalent, and consent of instructor. Comprehensive overview of systematics, morphology, biology, host-parasite relationships, public health problems and control of protozoa parasitic in man and animals. May be taken concurrently with 218B.

Mr. Ash

218B. Protozoal Diseases of Man. (¼ course) Laboratory, four hours. Prerequisite: course 218A or equivalent. May be taken concurrently. Methods of diagnosis and microscopic recognition of protozoan parasites in man and animals. Includes intestinal protozoa and organisms occurring in the blood of man and animals. May be taken concurrently with 218B.

Mr. Ash

219. Arthropods of Medical Importance. Lecture, two hours; laboratory, six hours. Prerequisites: Biology 105 or 107 or equivalent; Biology 181 or equivalent; Bacteriology 101 or equivalent. Biology and identification of mites and insects of public health importance in transmission and causation of human diseases.

Mr. Barr

220A. Helminthic Diseases of Man. Lecture, four hours. Prerequisites: Bacteriology 101 or equivalent, or Biology 105 or equivalent, and consent of instructor. Comprehensive overview of systematics, morphology, biology, host-parasite relationships, public health problems and control of the nematodes, trematodes and cestodes parasitic in man and animals. May be taken concurrently with 220B.

Mr. Ash

220B. Helminthic Diseases of Man. (¼ course) Laboratory, four hours. Prerequisite: course 220A or equivalent. May be taken concurrently. Diagnosis and practice of helminthic diseases. Nematodes, trematodes and cestodes parasitic in man and animals. Pathology produced by these infections is also studied.

Mr. Ash

221. Seminar in Epidemiology: Methodology. (½ course) (Formerly numbered 265.) Discussion, two hours. Prerequisites: course 211A or equivalent and consent of instructor. Review of current epidemiologic research contained in recent medical literature. May be repeated for credit. Offered on a Satisfactory (S)-Unsatisfactory (U) grade basis.

The Staff

222. Seminar in Epidemiology: Infectious and Tropical Disease. (4 course) (Formerly numbered 266.) Discussion, two hours. Prerequisites: course 211A or equivalent and consent of instructor. Review of research specific to public health importance. May be repeated for credit. Offered on a Satisfactory (S)-Unsatisfactory (U) grade basis.

The Staff


Mr. Mack

229. Advanced Seminar in Epidemiology. (¾ course) Discussion, two hours. Prerequisites: course 211B and consent of instructor. Students and faculty present and discuss current research in Epidemiology. May be repeated for credit. Offered on a Satisfactory (S)-Unsatisfactory (U) grade basis.

The Staff

232. Governmental Health Services and Trends. (Formerly numbered 202.) Lecture, four hours. Prerequisites: course 130, two additional upper division social or behavioral sciences courses, and consent of instructor. Systematic analysis of the interface between organized programs of personal health services and governmental agencies at all jurisdictional levels. Study of changing relationships between traditional public health and newer medical care and quality-control functions.

Mr. Shonick

235. Law, Social Change and Health Service Policy. (Formerly numbered 208.) Lecture, four hours. Prerequisites: course 130, two upper-division social or behavioral sciences courses, or equivalent, and consent of instructor. Legal issues affecting policy formulation for environmental, preventive and curative health service programs and agencies.

Mr. Price

236. Quality Assurance and Assurance. Lecture, one and one-half hours; discussion one and one-half hours; conference, one hour. Prerequisites: courses 100A, 112, 130 and one additional course in health services or epidemiology, or equivalent, and consent of instructor. Systematic analysis of quality assurance, quality assurance, and the measurement of health status.

Mr. Brook

238. Microeconomic Theory of the Health Sector. (Formerly numbered 203.) Lecture, four hours. Prerequisites: Economics 1, 2, course 100A or equivalent; 232, and consent of instructor. Microeconomic aspects of the health care system including health manpower substitution, choice of efficient modes of treatment, market efficiency and competition.

Mr. Price

243. Issues in Health Planning. (Formerly numbered 281.) Discussion, three hours; field work, three hours. Prerequisites: course 181 or equivalent research course and 444B. In-depth presentation and analysis of current issues of importance to advanced students in health planning.

The Staff

247. Research Topics in Health Economics. (Formerly numbered 207.) Seminar, four hours. Prerequisites: courses 130, 238, 446, or equivalent, and consent of instructor. Economic analysis of current health policy issues and the development of studies pertaining to health manpower, health care costs and controls, the diffusion of technology, and cost-benefit analysis of health programs.

Mr. Schweitzer

250. Advanced Environmental Health. (Formerly numbered 210.) Lecture, four hours. Prerequisites: course 150 or equivalent and consent of instructor. Theoretical considerations and supporting data
Prerequisites: Chemistry 24 or Biological Chemistry 101A (may be taken concurrently), course 165, and consent of instructor. Biochemical techniques and instrumentation used in Environmental and Nutritional Sciences.

Ms. Valentine and the Staff

261B. Advanced Laboratory Techniques in Nutritional Science. (Formerly numbered 212B) Lecture, two hours, laboratory, four hours. Prerequisites: course 261A and consent of instructor. Current biochemical methods emphasizing instrumentation. The Staff

262. Seminar in Nutrition. (4 units) Lecture. 170, one course in 260 series. Review of current literature in nutritional science. Emphasis on methodology and data evaluation. May be repeated for credit upon consent of instructor. Ms. Valentine

264F. Clinical Nutrition Problems. (4 units) Lecture, two hours. Prerequisites: Biological Chemistry 101 or 201; one or more 200 level Nutrition courses. Nutrition and nutrient-metabolic interactions in various disease states such as cardiovascular disease, diabetes, and obesity. Ms. Alfin-Slater, Mr. Kopple, Ms. Swendsen

265. Seminar in Maternal and Child Nutrition. (4 units) Lecture, two hours; discussion, two hours. Prerequisites: course 110, 161, 170 or equivalent, and consent of instructor. Nutrition of mothers, infants and children in countries at various levels of socio-economic development; measures for prevention and treatment of protein-calorie malnutrition; relationship between nutrition and mental development; impact of ecological, socio-cultural and cultural factors on nutrition, nutrition education and service. Mr. Jelliffe, Ms. Neumann

267. Medical Anthropology. (Formerly numbered 225) Lecture, four hours. Prerequisites: course 110, 112, one upper division course in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Examination of the concepts "health" and "illness" and their relationship to nutritional status. The Staff

270. Seminar on Current Issues in Maternal and Child Health. (4 units) Formerly numbered 270) Discussion, two hours. Prerequisites: courses 171 and either 110 or 111. New approaches and knowledge in selected health and social problems of families, women of childbearing age and children including family care and adequate, health and genetic counseling. Mr. Katz, Ms. Neumann

273. Qualitative Research Methodology. (Formerly numbered 217) Discussion, three hours; laboratory, one hour. Prerequisites: courses 100A, 110, 130, 181 or equivalent, and consent of instructor. Intensive seminar-field course in qualitative research methodology. Emphasis placed on using qualitative methods and techniques in research and evaluation related to health care. Ms. Scrimshaw

274A. Seminar in Population Policy and Fertility. (Same as Sociology M274C; formerly numbered M278C) Discussion, one hour; seminar, three hours. Prerequisites: courses M274A-274B or equivalent, graduate standing, and consent of instructor. Review of recent population policy and fertility in conjunction with student research reports. May not be repeated for credit. Ms. Blake

275. Human Lactation: Biological and Public Health Significance. (4 units) Lecture, two hours; laboratory, two hours. Prerequisites: courses 112, 270 or equivalent, and consent of instructor. Biological and economic aspects of human lactation in industrialized and developing countries. Mr. Jelliffe

280. Change Determinants in Health Related Behaviors. (Formerly numbered 233) Lecture, four hours; discussion, two hours. Prerequisites: course 132, 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. The Staff

281. Advanced Social Research Methods in Health. (Formerly numbered 245B) Lecture, two hours; laboratory, two hours. Prerequisites: courses 100A, 181, or equivalent, and consent of instructor. Definitions, and strategies for health program evaluation; selected applications of research design and measurement to interpretative data. Ms. Berkanovic

M283E. Sociocultural Aspects of Health and Illness: Social Epidemiology. (Same as Sociology M249A; formerly numbered M249A) Lecture, two hours. Prerequisites: course 182, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Relationship between sociocultural, and psychological factors in etiology, occurrence, and distribution of morbidity and mortality. Emphasis on life style and its sociocultural and environmental factors associated with disease and mortality. The Staff

M283F. Sociocultural Aspects of Health and Illness: Health Professions. (Same as Sociology M249B; formerly numbered M249B) Lecture, three hours. Prerequisites: course 182, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Sociocultural factors affecting differential patterns of health behavior, illness behavior, and sick role behavior. Mr. Berkunow

284. Ecology of Mental Health. (Formerly numbered 238) Lecture and discussion, two hours; reading and preparation of a serious research paper. Prerequisites: courses 112, 270 or equivalent, and consent of instructor. Analysis of occurrence and distribution of mental disorders in the community and the relation of social structure. Problems of classification, definition, measurement in psychiatric epidemiology, socio-cultural and social-psychological factors in mental disorders. The Staff
285. Community Problems in Mental Disorders. (Formerly numbered 252.) Lecture. Three hours. 
Prerequisites: course 185, three upper division or graduate level courses in psychology, social work, or equivalent, and consent of instructor. Intensive examination of the meaning of mental health, mental illness, and psychotherapy, both curative and preventive within a public health context. Implications for social policy and planning. 
Mr. Goldstein

286. Seminar in Behavioral Sciences and Health. (€ to 1 course) (Formerly numbered 283.) Lecture, two hours; course equivalent to minor in M238E-238F-238G or equivalent, and consent of instructor. Recent significant contributions of behavioral sciences to understanding health and illness, with selected and varying topics each quarter. May be repeated for credit. Mr. Washington

288. Current Problems in Health Education. (Formerly numbered 250.) Lecture, one hour; discussion, three hours. Prerequisites: courses 183, 280, and consent of instructor. Current problems and findings in health education content areas, such as, nutrition, mental health, family health, consumer health, safety, communicable and chronic diseases. 
Mr. Washington

290. Seminar in Community Health Education. (§ course) (Formerly numbered 261.) Discussion, two hours. Prerequisites: courses 183, 280, and consent of instructor. 
Mr. Washington

291. Advanced Topics in Health Survey Research Methods. Lecture, two hours; discussion, two hours. Prerequisites: courses 104A-104B, Psychology 137C, Sociology 216A-216B, courses 181, 281 or equivalent, and consent of instructor. Special topics in health survey research methods. Design of special purpose surveys; research design of unique techniques, and memory aids; measurement error including response bias, social desirability, response validity; telephone interviewing; obtaining data on sensitive issues; ethics and confidentiality of survey data. 
The Staff

400. Field Studies in Public Health. (€ to 1 course) Prerequisite: consent of instructor. Field observation and studies in selected community organizations for health promotion or medical care. Enrolled students must file field work plans and program training documentation on form obtainable from Student Affairs Office. Not applicable to minimum course requirements for the M.S. degree. Only four of the upper division courses for four units required for the M.P.H. degree. 
The Staff

401. Statistical Methods in Medical Studies. (§ course) (Formerly numbered 409.) Lecture, two hours. Prerequisites: course 100C or 100D or Mathematics 152B or equivalent and graduate standing in Public Health or related field. Design and analysis of medical studies. 
Ms. Clark

410A. Management of Epidemiologic Data. (§ course) (Formerly numbered 412A.) Lecture, two hours. Prerequisites: course 100A, 112 (one may be taken concurrently by instructor). Concepts, collection and management of data with particular emphasis on large scale data bases. Introduction to computer and appropriate selection and use of packaged programs. 
Ms. Coulson

410B. Management of Epidemiologic Data. (§ course) (Formerly numbered 412B.) Lecture, two hours. Prerequisites: course 410A or equivalent and consent of instructor. Development of special purpose programming and compiler languages for epidemiologic data management. In large-scale studies in infectious and chronic disease emphasized. 
Ms. Coulson

411. Research Resources in Epidemiology. (§ course) Lecture, one hour; discussion, one hour. Prerequisites: courses 100B, 211B, and consent of instructor. General survey of the use of various bibliographic aids and sources of information, building of reference files, and presentation of research findings for publication. 
Ms. Coulson, Mr. Spivey

412. Preventive Medical Services in the Community. (€ course) (Formerly numbered 414.) Lecture, two hours. Prerequisites: courses 112, 130 or equivalent and consent of instructor. Current preventive medical practices in the community including cardiovascular disease, dependency disorders, communicable diseases, maternal health, mental health, presumptomatic screening, personal hygiene, and financing. 
Mr. Tennant

413. Epidemiologic Aspects of Preventive Medicine. (§ course) (Formerly numbered 458.) Lecture and discussion, two hours. Prerequisites: graduate standing, courses 100A, 110, 112, or MD/Ph.D. degree, and consent of instructor. Current technical, epidemiologic and programmatic aspects in preventive medicine. 
Mr. Breslow

430. Management of Medical Care Organizations and Programs. (Formerly numbered 415.) Lecture, four hours. Prerequisites: course 131 and consent of instructor. Application of organizational, economic and behavioral science concepts to understanding structure and functions of health care facilities and programs. 
Mr. Pointer

431. Managerial Processes in Health Service Organization. (Formerly numbered 416.) Lecture, one hour; laboratory, three hours. Prerequisites: course 430 and consent of instructor. Managerial skills and behaviors applied to components of organization and systems: inter-organizational, group, inter-personal, system, and inter-organization. Unique features of health service organizations are stressed as applications are presented. 
Mr. Pointer, Mr. Ross

432. Integrative Seminar in Health Services Management. (Formerly numbered 417.) Lecture, four hours. Prerequisite: course 431. Resident and preceptors are responsible for presenting cases of actual administrative problems for solution by teams of students and faculty. 
Mr. Cretin, Mr. Pointer, Mr. Ross

433. Contemporary Issues in Health Services Management. (Formerly numbered 418.) Lecture, two hours; discussion, two hours. Prerequisite: course 431. Advanced study of contemporary intramural and extramural issues which affect management of health care facilities. 
Mr. Cretin, Mr. Pointer, Mr. Ross

434. Quantitative Methods in Health Services Management. (Formerly numbered 479.) Lecture, four hours. Prerequisites: courses 100A or 283G or equivalent, and consent of instructor. Advanced study of statistical methods and computer applications for medical decision-making. Deterministic and stochastic analyses of problems in: resource allocation, inventory control, task sequencing, patient and facilities scheduling, and cost-benefit analysis. 
Mr. Cretin

435. Manpower Management in Health Service. (Formerly numbered 436.) Lecture, two hours. Prerequisites: course 131 or equivalent, and consent of instructor. Introduction to personnel administration and labor relations as they apply to health care facilities. 
Mr. Pointer

436. Principles of Health Facility Financial Management. Lecture, four hours. Prerequisites: course 131 and one graduate level course in managerial finance/accounting or equivalent and consent of instructor. Application of financial planning and accounting principles to health care facilities including unique financial characteristics of health care facilities, third party reimbursement, cost finding and rate setting, operational and capital budgeting, auditing and risk management. 
Mr. Girard

437. The Legal Environment of Health Services Management. (§ course) Lecture, two hours. Prerequisites: courses 110, 112, and 130 or equivalent (may be taken simultaneously) 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 third party reimbursement mechanisms. 
Mr. Schoen

440A. Health Information Systems: Organization and Management. (Formerly numbered 40A.) Lecture, two hours, laboratory, three hours. Prerequisites: courses 140A-140B or equivalent, and consent of instructor. Principles of systems and methods relating to organization and management of a health facility's health information system. 
Ms. Johnson

440B. Health Information Systems: Organization and Management. (Formerly numbered 40B.) Lecture, one hour; laboratory, three hours. Prerequisites: courses 140A, 140B or equivalent, and consent of instructor. Health and administrative research using clinical records. Principles of planning for information use. Study of current practices for computerization in methods of obtaining and processing data to meet needs of programs in institution and agency. 
Mr. Schoen

441A-441B. Health Record Systems. (€ course each) (Formerly numbered 444A-444B.) Lecture, two hours. Prerequisites: courses 100A, 112, 130, or equivalent, and consent of instructor. A required course for the Advanced Study of Principles and Criteria in clinical, legal and mufti-faceted settings of health care facilities and data available used for medical audits. 
Mr. Goodman, Ms. Johnson

443A. Small Area Planning for Resources for Personal Health Service—Theory. (§ course) (Formerly numbered 403A.) Lecture, two hours. Prerequisites: courses 130, one additional course in health services and hospital administration or equivalent, and consent of instructor. Analysis of systems used in evaluating health care facilities and programs. Concepts and methods in regional and ambulatory settings. 
Mr. Goodman

443B. Small Area Planning for Resources for Personal Health Service—Laboratory. (§ course) (Formerly numbered 404A.) Lecture, two hours. Prerequisites: courses 130, two additional courses in health services and hospital administration or equivalent, and consent of instructor. Health planning theory, methods and experience with planning for personal health care resources for small geographic areas. Determining needs and estimating required utilization levels and health care resources. Survey of elements of different disciplines used in area-wide health planning. 
Mr. Shonick

446A. Applied Methodology in Health Planning. (Formerly numbered 406.) Lecture, three hours; field work, four hours. Prerequisites: courses 130 or equivalent, 443B, 444A, and consent of instructor.

NOTE: For key to symbols, see page 74.
Demonstrating methodology of health planning by involving students in formulation of actual health plan for existing agency in Los Angeles.

The Staff

445A-445B. Practicum in Health Planning. (Formerly numbered 403A-403B-403C.) Prerequisites: courses 443A, 443B, 444A, and consent of instructor. NSHPH Health Planning. Two half years. Preparation for and subsequent analysis of 10-week work experience undertaken during summer between first and second year. Progress grading is used.

446. Financing Health Care. (Formerly numbered 411.) Lecture, four hours. Prerequisites: Economics 1, 2 or equivalent, course 130, and consent of instructor. Patterns of health care financing by consumers, providers, third-party intermediaries; trends in health service use; expenditures, national health insurance, and international comparisons of health financing.

Mr. Schweitzer

447. Health Insurance Principles and Programs. (Formerly numbered 453.) Lecture, four hours. Prerequisites: courses 130, 332, an additional health services course, and consent of instructor. Enrollment in programs; different reference and varied scopes of coverage and benefits for public and private medical care developments.

Mr. Shonick

448. Evaluation of Health Services and Programs. (Formerly numbered 419.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: courses 100A, 130, 139 or equivalent, and consent of instructor. Analysis of methods and findings of current research and evaluation of selected health services and programs in society and social contexts. Principles of decision analysis. Emphasis on measurement of outcomes of health services systems.

Mr. Hopkins

450. Environmental Measurements. (Formerly numbered 460.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 153 or 261A, 250. Instrumental methods for laboratory and field applications to assess quantity of environmental pollutants in air, water, and soil. Degree of exposure to such factors as noise and radiation.

Ms. Mah, Ms. Valentine

454. Environmental Policy Decision-Making. (Formerly numbered 423.) Lecture, four hours; discussion, one hour. Prerequisite: course 254. Foundation in methods for modeling of environmental policy decision-making. Critical analysis of normative and behavioral models of action choices for protection and enhancement of environmental health, and development of an alternative model.

Mr. Davos

460. Principles of Public Health Nutrition. (Formerly numbered 445A.) Lecture, two hours; discussion, one hour; laboratory, one hour; field trips, four hours. Prerequisites: courses 100A, 112, 130, 139, 261A (may be taken concurrently). Survey of methods, problems, and practices used by health agencies in dealing with community nutrition of population groups.

Ms. Hunt

461. Nutritional Assessment: Dietary Surveys. (4 course) (Formerly numbered 421.) Lecture, one hour; laboratory, three hours. Prerequisite: course 455. Collection and evaluation of nutrient intake data for the purpose of nutritional assessment of population groups.

Ms. Hunt

462. Nutritional Assessment: Laboratory Assays. (4 course) (Formerly numbered 412.) Lecture, one hour; laboratory, three hours. Prerequisites: courses 162, 165, 167 or equivalent, and one course in 260 series. Biochemical methods for evaluating individual and population groups. Techniques for measuring vitamins, minerals, lipids, and proteins.

Ms. Swendsen

463. Practicum in Public Health Nutrition. (Formerly numbered 445B.) Discussion, one hour; field research, 12 hours. Prerequisites: courses 400, 460 (may be taken concurrently). Analysis of Public Health Nutrition problems. Delivery of community nutrition education.

Ms. Hunt

470A. International Health Agencies and Programs. (Formerly numbered 456A.) Lecture, four hours. Prerequisites: three upper division or graduate courses in human development, science, and consent of instructor. Historical development and functions of international health organizations. Key problems and trends in international health. Bilateral programs, medical-religious missions, private foundations, and other dis- seminating information, money, and services.

Mr. Neumann

470B. Advanced Issues in International Health. (Formerly numbered 456B.) Lecture, two hours; discussion, two hours. Prerequisites: courses 173, 175, 270, 470A or 472 or 475. In-depth focus on major health care issues confronting recipient less-developed countries and donors of technical and financial assistance.

Mr. Neumann

471A. Reproduction Health Services and Programs. (Formerly numbered 474A.) Lecture, two hours; discussion, two hours. Prerequisite: course 172 or equivalent. Examination of U.S. delivery systems of pregnancy care, family planning, male- specific and female-specific health care services and programs, and the role of policy making, facilities, personnel and funding in the delivery of reproductive health care.

The Staff

471B. Current Issues in Reproductive Health. (Formerly numbered 474B.) Lecture, two hours; discussion, two hours. Prerequisite: course 471A. Critical review of current public health and socio-political problems in reproductive health. Emphasis on development of feasible solutions and strategies for achieving them.

The Staff

472. Maternal and Child Health in Developing Areas. (Formerly numbered 412.) Lecture, two hours. Prerequisites: courses 270, 470A or equivalent, and consent of instructor. Major health problems of mothers and children in developing areas: stress, causation, management, and prevention. Analysis of maternal and child health programs and limited resources in cross-cultural milieu.

Ms. Neumann

473. Handicapped Children: The Public Health Concern. (4 course) (Formerly numbered 431.) Lecture, four hours; discussion, one hour; laboratory, one hour. Prerequisites: courses 116, 111, 170 or equivalent and consent of instructor. Etiology, prevalence, social consequences and remedial programs for the major handicapping conditions in children. Emphasis on biological and psychological concepts and principles, trends and developments.

Mr. Katz

474. Self-Care and Self-Help in Community Health. Lecture, two hours; discussion, two hours. Prerequisites: courses 112, 130 and field work internship or equivalent, and consent of instructor. Review of background, principles, concepts, programs and research concerning the emerging field of self-care in health.

Mr. Katz

475. Planning and Development of Family Health Programs. (Formerly numbered 405.) Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 170, 173, 181 or 470A, 270 or equivalent, Theory, guidelines, and team exercise for planning community health/family planning projects in the U.S.A. and in developing countries. Phases include: community needs identification; goal setting; budget and work plan development; funding, staffing; evaluation design; data and cost analysis; and project presentation.

Ms. Neumann

476. Human Reproduction in Cross-Cultural Perspectives. (Formerly numbered 470.) Lecture, two hours; discussion, two hours. Prerequisites: courses 112, 172, 173 or equivalent, and consent of instructor. Exploration of human behavior related to reproduction and implications of biological and behavioral factors with particular reference to human reproduction.

Ms. Scrimshaw

477. Assessment of Family Nutrition. (Formerly numbered 471.) Lecture with discussion, four hours. Prerequisite: course 270. Assessment of current family nutrition situations in developing countries with special reference to limited resources, terrain and cross-cultural considerations, stressing anthropometric methods and techniques.

Mr. Jelliffe and the Staff

478. Anthropometric Nutritional Assessment. (¾ to 2 courses) Prerequisites: graduate standing, consent of the instructor. Individual guided studies under direct faculty supervision. May be repeated for credit; only 1 course (4 units) will count toward the minimum course requirements for the M.P.H.

Mr. Jelliffe

480. Nutrition Programs and Policies for Families in the Third World. Lecture, two hours; discussion, two hours. Prerequisites: courses 172 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.

Mr. Jelliffe

481. Nutrition Education in Clinical Settings. (Formerly numbered 434.) Lecture, two hours; discussion, two hours. Prerequisites: courses 130, 183, 280, 282, and consent of instructor. Analysis of the role of nutrition educators. Application of the methods of nutrition education in promoting the use of nutritious foods and their use in the community and in hospitals. Observation and discussion of clinical activities in the medical center in relation to the process of health education.

Mr. Richards

482. Practicum in Health Education. (1 or 2 courses) (Formerly numbered 430.) Discussion, two hours; field, six or 18 hours. Prerequisites: courses 182, 280, and consent of instructor. Study of community and group felt needs as reflected in behavior. Analysis of data for understanding, planning, implementing, and evaluating need-directed health education and medical care programs.

Mr. Richards

485. Benefit-Cost Evaluation of Health Programs. (Formerly numbered 459.) Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 112, Economics 102 or equivalent, and consent of instructor. Cost-effectiveness principles and techniques employed to evaluate public health programs and projects.

Mr. Rada

495. Teacher Preparation in Public Health. (¾ course) Prerequisites: 18 units of cognate courses in area of specialization, and consent of Department Chairman. No applicable on minimum course requirements for a master's degree. Offered on Satisfactory (S)/Unsatisfactory (U) basis only. May be repeated for credit.

Mr. Jelliffe

501. Cooperative Program. (¾ to 2 courses) Prerequisites: approval of UCLA Graduate Advisor and Graduate Dean. Approval of host campus instructor, Department Chairman and Graduate Dean. To record enrollment in courses taken under cooperative arrangements with neighboring institutions. No more than 8 units may be applied to the minimum total course requirements for a master's degree. No credit allowed toward the minimum five graduate courses required to a master's degree. Offered on a Satisfactory (S)/Unsatisfactory (U) grade basis only.

The Staff

Individual Study and Research

506. Directed Individual Study or Research. (¾ to 2 courses) Prerequisites: graduate standing, consent of the instructor. Individual guided studies under direct faculty supervision. May be repeated for credit; only 1 course (4 units) will count toward the minimum course requirements for the M.P.H.
RADIOLOGICAL SCIENCES

(Department Office, BL-428 Center for the Health Sciences)

Leslie R. Bennett, M.D., Professor of Radiological Sciences
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William N. Hanauer, M.D., Professor of Radiological Sciences
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Gabriel H. Wilson, M.D., Professor of Radiological Sciences (Chairman of the Department)
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NOTE: For key to symbols, see page 74
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Sheerwin M. Olk, M.D., Assistant Clinical Professor of Radiological Sciences.
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Doina Tanasescu, M.D., Assistant Clinical Professor of Radiological Sciences.
Herbert Toch, M.D., Assistant Clinical Professor of Radiological Sciences.
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Michael H. Weller, M.D., Associate Clinical Professor of Radiological Sciences.
Morton Weiser, M.D., Assistant Clinical Professor of Radiological Sciences.
David W. Wieder, M.D., Assistant Clinical Professor of Radiological Sciences.
Henry S. Williams, M.D., Associate Clinical Professor of Radiological Sciences.
Gerald L. Winkle, M.D., Clinical Instructor of Radiological Sciences.
Ralph Wolfstein, M.D., Associate Clinical Professor of Radiological Sciences.
John H. Woodruff, Jr., M.D., Associate Clinical Professor of Radiological Sciences.
Dianne A. Young, M.D., Assistant Clinical Professor of Radiological Sciences.
Norman Zehnlin, M.D., Clinical Professor of Radiological Sciences.
Arthur S. Zimmerman, M.D., Clinical Instructor of Radiological Sciences.

Requirements for Admission to Graduate Status
Candidates for admission to graduate status in the Department of Radiological Sciences must meet the general requirements set by the Graduate Division for admission to such status.

Areas of Study
- Study in the fields of radiation physics, radiation biology, and radiation chemistry with applications in nuclear medicine, radiation therapy, and diagnostic radiology will be open to qualified students.

Requirements for the Degree of Master of Science in Medical Physics

General University Requirements. Candidates for the Master of Science degree in Medical Physics must meet the general requirements set by the Graduate Division for this degree. The candidate must elect the Thesis Plan.

Departmental Requirements. The student must complete the radiology courses in the three clinical rotations (Nuclear Medicine, 202A; Diagnostic Radiology, 202C; and Radiation Therapy, 202D), and the necessary prerequisites. Additional courses may be required. The student should have an appropriate background in physics, chemistry, biology, and mathematics.

Requirements for the Doctoral Degree in Medical Physics

General University Requirements. Candidates for the Doctoral Degree in Medical Physics must meet the general requirements set by the Graduate Division for this degree. A series of written and oral examinations are required before advancement to candidacy.

Departmental Requirements. (1) Advancement to Candidacy. Advancement to candidacy is granted only after the student has passed preliminary written screening examinations and a qualifying oral examination in the physical, biological, and chemical foundations of medical physics. (2) Normally, graduate students will be expected to take courses 200, 202, 204, 206, 207, 208, 260, and 266. Completion of additional courses may be recommended.

The Doctorate in Medical Physics is not granted merely upon completion of the requirements as to examinations, courses, and dissertation; fulfillment of such requirements is a prerequisite. The Ph.D. will be granted only to students who have clearly demonstrated both an adequate grasp of a broad field of knowledge and an ability to contribute to that field of knowledge by original and independent research.

Graduate Courses

199. Directed Individual Study or Research in Medical Physics for Undergraduate Students. (1-4 credits) Prerequisite: consent of the Graduate Adviser of Medical Physics. Directed individual study in Medical Physics for undergraduate students. Students must submit written proposals outlining study or research to be undertaken. This should be worked out in consultation with the faculty member involved prior to the beginning of the quarter.

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200A. Physics and Chemistry of Nuclear Radiation. Prerequisite: consent of instructor. Nuclear structure, statistics of radioactive decay, nuclear radiations and their interaction with matter, nuclear decay processes, nuclear reactions, dosimetry, and computer models. The physical and chemical properties of radioactive preparations used in nuclear medicine.

The Staff

200B. Instrumentation in Nuclear Medicine. Prerequisite: course 200A. Introduction to nuclear medicine instrumentation including exterior probe systems, well scintillation detectors, liquid scintillation counters, scanners and cameras; dosimetry of internally administered radioisotopes.

Mr. Graham

201. Environmental Radiations. The sources, physical properties, and health effects of ionizing and non-ionizing radiations, ultraviolet and lasing light, and microwave and acoustic radiations in the environment. Social benefit vs. technological risk will be evaluated.

Mr. Norman

202A-202D. Applications of Medical Physics to Clinical Problems. Prerequisite: course 200C or consent of instructor. Selected studies in the clinical use of radioisotopes.

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202A. Nuclear Medicine. The Staff

202C. Diagnostic Radiology. The Staff

202D. Radiation Therapy. The Staff

202E-202F. Application of Medical Physics to Clinical Problems: Radiation Therapy. Prerequisite: course 202C for physicians only. Lecture-discussion of dosimetric calculations and measurements involving cases under treatment. Written reports on representative problems selected from current literature and/or clinical experience.

The Staff


The Staff

204. Introductory Radiation Biology. Lecture. Effect of ionizing radiation on chemical and biological systems.

Mr. Riley

205. Physics of Diagnostic Radiology. Production of x-rays, basic interactions between x-rays and matter, x-ray system components, physical principles of medical radiography, radiographic image quality, fluoroscopy, image intensifiers, special procedures, x-ray protection. Laboratory experiments will illustrate the basic theory.

Mr. Greenfield

207. Radiation Protection and Health Physics. Concepts in radiation protection, the recommendation of the national council on radiation protection and measurement, the maximum permissible dose levels. Shielding calculations. The layout and design of radiographic installation.

The Staff

208A-208B. Medical Physics Laboratory. Prerequisites: course 208A and 208B. Lecture, laboratory discussion of dosimetric calculations and measurements. Dosimetry, the use of radiosotopes, and non-ionizing radiation, applications to problems in radiological sciences.

Mr. Herman


The Staff
With a GPA in upper division courses of 3.00 or better, students admitted from elsewhere whose preparation is considered deficient in view of their intended specialization are required to make up their deficiency by taking specified lower division courses. Such courses may be taken concurrently with graduate courses, but they do not count toward the course requirements for the M.A. Three courses must be passed by the first graduate year. The student who knows only the language of his major should prepare himself in at least one other Romance language so he can take courses in his minor no later than in his second quarter of study.

2. Course Requirements. The M.A. program permits specialization in either Linguistics or Literature and will include a major and a minor. Twelve courses are the minimum requirement of which six courses (at least five of them graduate) must be in the student’s major language, with specialization either in Linguistics or in Literature. The remaining three courses should be selected in consultation with the guidance committee so as to be logically supportive of the student’s major work of study. Each individual program will be worked out in close consultation with the guidance committee. Course 596 may be included twice. Linguistics 100 is required of all students majoring in the linguistics field.

3. Guidance. Each new graduate student must make an appointment with the Chairman during the week preceding the start of classes to discuss general requirements and to decide on the program of study for the quarter. Following this initial interview, the student is required to see his advisor at least once a quarter for review of his progress towards the degree. He must have his study list approved by the Chairman and he must sign it to be signed by the Chairman of the program. A guidance committee will be constituted for each student majoring in his field of specialization and in no case later than the end of the first quarter in the program.

4. Language Requirement. In addition to the Romance language of major interest and the Romance language of minor interest, candidates are required to have either Latin 3 or the equivalent, or Italian 3 in Literature. The latter is not their major, whether they specialize in Linguistics or in Literature. The language requirement must be completed no later than the quarter before the quarter in which the student expects to receive his degree.

5. Comprehensive Examination Plan. The comprehensive examination is administered by three members of the student’s guidance committee, appointed by the Chairman. Two of the three committee members will represent the languages and field of the student’s major and first minor. The written comprehensive examination, consisting of one 4-hour examination in the major field, one 2-hour examination in the minor language, and another oral examination not to exceed one hour, will be given each quarter in the second week prior to final examinations. The examination is graded by the committee and their decision is final. If a student fails the examination or any part thereof, he may retake the failed portions once when the examination is next regularly offered.

6. Thesis Plan. A student may petition for authorization to write an M.A. thesis only after completion of six courses which count toward the degree. It is the responsibility of the student to choose an appropriate topic and find a professor in his field to supervise. This professor then assumes responsibility for the program for authorization to proceed. The program Chairman first examines the petition and then presents it to the Interdepartmental Committee for approval or denial by a majority vote. If the petition is approved, a thesis committee is appointed which consists of a chairman in the field of the thesis and two or more members of the sponsoring departments. After completion of the thesis, the candidate must pass a two-hour oral examination testing his knowledge of the field of his thesis and his 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.

Requirements for the Ph.D. Degree

General Requirements. See Doctoral Degrees.

Departmental Requirements.

1. Fields of Specialization and Course Requirements. The Ph.D. program in Romance Linguistics or Literature. In each case the Ph.D. program will consist of a major and two minors. These courses (a minimum program) will be distributed as follows: Major - 5 courses; Italian or Portuguese - 3 courses; Second Minor - 2 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 ten other graduate courses, of which no more than two 596 courses may apply, as well as such courses as his guidance committee may prescribe, are required. Linguistics 100 is required of all students majoring in the linguistics field.

2. Linguistics. A student specializing in Linguistics may choose as his major field one of the following: (1) The present-day grammar of the Romance language of his major interest and its relation to the grammar of its sister languages and to language in general; (2) Historical Romance linguistics and comparative Romance, Renaissance and Baroque; (3) Modern Literature, preferably with emphasis in one of the Romance languages (and possibly other interrelated cultural aspects) from the perspective of historical linguistics; (4) The genetic and typological relationships between Romance and 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 interdisciplinary study.

3. Literature. The student specializing in Literature may take as his major field one of the following fields in the literatures of at least two Romance languages: (1) Early Romance Literature and Philosophy; (2) Renaissance and Baroque; (3) Modern Literature, preferably with emphasis in one of the Romance languages.

4. Language Requirement. In addition to the minor field of two Romance languages required in the student’s program, Latin or its equivalent, is required of all students in the interdisciplinary department. Students choosing options 2 or 3 in Linguistics or option 1 in Literature also require German, whereas those choosing option 1 in Linguistics or option 2 or 3 in Literature will require another foreign language to be determined by the guidance committee in accordance with the student’s program. A minimum level of acceptability in the foreign language is prescribed, and the student is required to pass the ETS test, where such test exists. In languages where there is no such test, passing an examination administered by the corresponding language department fulfills the requirement. That foreign language requirement may also be met by evidence of completion of two years of college level courses in the language with Grade B or better, or by evidence of fulfillment of the foreign language requirement in connection with the M.A. degree or equivalent obtained elsewhere. The foreign language requirement must be satisfied no later than the quarter before the quarter in which the qualifying examinations are taken.

5. Admission Requirements and Guidance. Entering students whom the Chairman determines to have obtained the M.A. in Italian, French, Luso-Brazilian Language and Literature, Spanish or the equivalent with distinction are automatically eligible for admission to the Ph.D. program and may proceed.

NOTE: For key to symbols, see page 74
to form their guidance committee; those whose M.A. program registers deficiencies in scope or quality will be required to make up those deficiencies and complete three graduate courses, after which their eligibility for admission to the Ph.D. program will be determined by the Interdepartmental Committee.

The guidance committee is composed of a chairman, who represents the student's major field of study and under whom the student proposes to write his dissertation, and two members representing the minor fields, all members belonging to the sponsoring departments. The chairman of the committee will normally be a tenured professor. It is the student's responsibility to constitute the committee and to secure the individual member's consent, which will be transmitted to the Chairman in writing. As soon as possible after advancement to candidacy, the student meets with his guidance committee for the purpose of working out his program of courses and setting a tentative date for the qualifying examinations. The guidance committee has final authority to prescribe the course of study in each individual case.

Students working toward the Ph.D. who have not yet been authorized to form their guidance committee are advised by the Chairman. Each new graduate student must make an appointment which will be scheduled during the week preceding the start of the fall term and the spring term. During the interview the student and advisor discuss general requirements and decide on a program of courses for the quarter. Following the initial interview, the student is required to see his advisor at least once a year for a review of his progress and to make up those deficiencies which he has not yet been authorized to form their guidance committee.

Students who have formed their guidance committee are advised by the chairman of that committee, who, moreover, must approve their study list each quarter before it is signed by the Chairman of the program.

6. Qualifying Examinations. At least two months prior to the date of the qualifying examinations, the student proceeds to form his doctoral committee, consisting of the three members of the guidance committee, plus two additional members from outside the staffs of the sponsoring departments, which will also pass on the student's written and oral examinations. The qualifying examinations are given during the fall, winter and spring quarters and consist of (a) a three-hour written examination in the major field; (b) a two-hour examination in the first minor; (c) a one-hour examination in the second minor; and (d) a two-hour oral examination in the three fields at which the student's prospectus for the dissertation is also discussed and approved. Failed portions of the examination may be retaken once after such remedial preparation as the committee may specify.

7. The Dissertation. The dissertation may be on any subject within the general area of Romance Linguistics and Literature. If more than five calendar years elapse between advancement to candidacy and the presentation of the dissertation, the program may require the student to revalidate his qualifying examination.

In consultation with the appropriate advisor(s), courses should be selected with an eye to the organic relationship between them, preferably among those listed below and/or their prerequisites:

Introduction to Romance Studies
(Spanish M200)
(ITALIAN 201)

Courses in Linguistics
Grammatical Theory:
(Linguistics 201A-201B, 206A-206B)

Historical Linguistics:
(Linguistics 202A-202B, 203)

Synchronic Linguistics
Advanced Grammar:
(French 201A-201D, 206)
(Spanish 204A-204B, 206)

(ITALIAN 259B)
(Portuguese 204A-204B)

Studies in Linguistics and Dialectology:
(French 261, 262)
(Spanish 256A-256B)

Historical Linguistics
The Development of the Romance Languages:
Northern Gallo-Romance:
(French 204A-2040)
Southern Gallo-Romance:
(Portuguese 215E)
Hispano-Romance:
(Spanish M203A-203B)
Italo-Romance:
(ITALIAN 259A)
Romance Dialectology:
(ITALIAN 259C)
(Portuguese 209)

Indo-European Linguistics:
(Indo-European Studies 210, 280A-280B)

Romance Linguistics:
(Linguistics 225C)

Medieval Latin:
(Latin 231A-231B)

Vulgar Latin:
(Latin 232)

History of the Latin Language:
(Latin 240)

Italic Dialects and Latin Historical Grammar:
(French 242A-242B)

Later Medieval Latin Palaeography and Manuscripts,
110B-150B:
(History 224)

Studies in the History of the Romance Languages:
Gallo-Romance:
(French 215A)
Hispano-Romance:
(Spanish M251)

Italo-Romance:
(ITALIAN 259A-259B-259C, 210A)

Courses in Literature
The Intellectual Background of Romance Literature:
(French 205A-205C)

Studies in Medieval Latin Literary History:
(History 222A-222B)

Literary Criticism:
(203A-203B-203C)

(Spanish M201)

(ITALIAN 205A-205B)

Studies in the History of Ideas:
(French 260A-260B)

Studies in Literary Criticism:
(French 258A-258B)

Studies in Philosophy and Literature:
(French 259A-259B)

Early Romance Literature
Early Romance Literature:
(French 215B-215E)

(Spanish 222-223, Portuguese 242A)


Greek:
(ITALIAN 214D, 251)

Studies in Early Romance Literature:
(French 250A-250B)

(Spanish 262A-262B-262C)

(Latin 250A-250B, 252)

Renaissance and Baroque Literature
Renaissance and Baroque Literature:
(French 216A-216B, 217A-217D)

(Spanish 224-226, 237, Portuguese 242A and 243A)

(ITALIAN 216A-E, 217A-217C)

Cervantes:
(Portuguese 227)

Studies in Renaissance and Baroque Literature:
(French 251A-251B, 252A-252B, 253A-253B)

(Portuguese 264A-264B)

(ITALIAN 253A-253C, 255A-255B)

Modern Romance Literature
The XVIIIth Century:
(French 218A-218D)

(ITALIAN 218A-218E)

(Portuguese 242B, 243A)

Rousseau:
(French 218H-218C)

The XIXth Century:
(French 219A-219K)

(ITALIAN 219A-219F)

The XXth Century:
(French 220A-220P, 221A-221D)

(Spanish 232-235 and 240-245, and Portuguese 242C and 243C)

(ITALIAN 220A-220C)

Studies in the XVIIIth Century:
(French 254A-254D)

(ITALIAN 277)

(ITALIAN 256A-256B)

Studies in the XIXth Century:
(French 255A-255B)

(Spanish 270A-270B, 278)

(ITALIAN 257A-257B)

Studies in the XXth Century:
(French 256A-256B, 257A-257B)

(Spanish 272A-272D, 280A-280D)

(ITALIAN 258A-258B)

Genre Studies:
Novel: Portuguese 252A, 253A
Poetry: Portuguese 252B, 253B
Theater: Portuguese 252C, 253C
Essay and Short Story: Portuguese 252D, 253D

SLAVIC LANGUAGES AND LITERATURES
(Chairman of the Department, 115 Kinsey Hall)
Aleksandr Albinis, Ph.D., Professor of South Slavic Languages and Literatures.
Henrik Birnbaum, Ph.D., Professor of Slavic Languages and Literatures.
Thomas Erkman, Ph.D., Professor of Slavic Literatures.
Michael S. Flier, Ph.D., Professor of Slavic Languages and Literatures.
Chairman of the Department.
Marija Gombata, Ph.D., Professor of European Archaeology.
Kenneth E. Harper, Ph.D., Professor of Russian Literature.
Vladimir Markov, Ph.D., Professor of Russian Literature.
Michael Shapiro, Ph.D., Professor of Russian Linguistics and Poetics.
Deborah S. Strother, Ph.D., Professor of Slavic Languages.
Richard Hodges, Ph.D., Associate Professor of Russian Literature.
Rochelle Stone, Ph.D., Associate Professor of Polish and Russian Literature.
Alan H. Timberlake, Ph.D., Associate Professor of Slavic Literatures.
Michael Heim, Ph.D., Assistant Professor of Czech and Russian Literature.

* Edward Demler, M.A., Lecturer in Russian.

Preparation for the Major
Required courses: Russian 1, 2, 3, 4, 5, 6, Slavic 99A-99B. Note: courses Russian 119 and 120A-120B may be taken in the sophomore year.

The Major
Students intending to continue into graduate school should note that several graduate courses (numbered below 220) may be taken by qualified seniors with permission of the instructor and the Graduate Advisor.

**Admission to Graduate Status**

The completion of the undergraduate major or its equivalent is required. Students entering from other institutions will be asked to make up any deficiencies before being admitted to most graduate courses.

**Requirements for the Master’s Degree**

1. For the general requirements, see Master’s Degrees. The Department follows the Comprehensive Examination Plan. The M.A. is weighted towards either Linguistics or Literature, but all candidates are expected to have a sound general knowledge of both Russian languages and Russian literary history.

2. 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 the candidate must be a senior and the candidate has satisfied the foreign language requirement in French or German and has passed the Russian Language Proficiency Examination.

3. **Foreign Language Requirement:** The candidate has the option of satisfying the foreign language requirement in French or German by one of the following methods: 1) Pass the Educational Testing Service examination with a score of 500 or more points, 2) Pass the Departmental reading examination.

4. **Russian Language Proficiency Examination:** The candidate must pass a Departmental Russian language proficiency examination no later than the end of the quarter preceding the quarter in which the M.A. examinations are to be taken.

5. **Course Requirements:** Required of all M.A. candidates: Slavic 201; Russian 102A-102B-102C; 112A-112B-112C. Candidates for M.A. (Linguistics) must take Slavic 202 and two courses chosen from Russian 211, 212, 213, and one other literature course in the Department. Note: most of the courses required for the M.A. are open to qualified seniors with the permission of the instructor and the Graduate Advisor.

6. A written examination, based on course work and the Departmental reading list, will cover either (a) Linguistics, including a thorough knowledge of Russian phonology and grammar and an acquaintance with Comparative Slavic Linguistics, Old Church Slavic, and the history of the Russian literary language; or (b) Literature, including an acquaintance with the entire history of Russian literature from its origins to the present and a thorough knowledge of the major developments and figures of the nineteenth and early twentieth centuries.

7. A final oral examination will test the student in the fields of his major interest and on his general background. It will be conducted partly in Russian.

8. **Statute of Limitations:** The Department does not encourage part-time or non-resident M.A. candidates. The M.A. examinations must be taken within two calendar years from the time of admission to the Graduate Division (time spent in removing deficiencies, to a maximum of one year, does not count toward this two-year period).

9. Students who fail either the written or the oral examination may retake it once, not later than one calendar year after the first attempt.

10. A grade of "High Pass" on the M.A. examination is required of the student for admission to the Department’s doctoral program (see below). M.A. candidates who intend to continue toward the Ph.D. should note that courses numbered 220-239 which are required for the Ph.D. may be taken before completion of the M.A.

**Requirements for the Doctor’s Degree**

1. For the general requirements, see Graduate Division. The Department’s program envisages specialization in Slavic literature, with Russian as the principal language and literature respectively. By special arrangement, students can specialize in a language or literature other than Russian.

2. Admission to the doctoral program: Students may make formal application to the Department for admission to the doctoral program when they have: (1) passed the UCLA M.A. examination with a grade of "High Pass", (2) satisfied the foreign language requirement in French or German, and (3) taken one year (or the equivalent) of a second Slavic language. Students who receive a grade lower than "High Pass" on the UCLA M.A. examination and entering students with an M.A. from other institutions, must (re)take the M.A. examination within one year as a doctoral screening examination, success in which is required for admission to the doctoral program.

3. Foreign Language Requirement. The candidate must satisfy the foreign language requirement in one Slavic language other than Russian in which he has passed the Russian Language Proficiency Examination. The foreign language requirement must be satisfied no later than the end of the quarter preceding the quarter in which the M.A. examinations are to be taken.

4. Slavic Language Proficiency Examination. The candidate must pass a Departmental Russian language proficiency examination no later than the end of the quarter preceding the quarter in which the M.A. examinations are to be taken. The candidate must pass the foreign language examination, which tests proficiency in translating from English to Russian and vice-versa, before taking the Russian Language Proficiency Examination.

5. **Course Requirements:** Required of all M.A. candidates: Slavic 201; Russian 102A-102B-102C, 112A-112B-112C. Candidates for M.A. (Linguistics) must take Slavic 202 and two courses chosen from Russian 211, 212, 213, and one other literature course in the Department. Note: most of the courses required for the M.A. are open to qualified seniors with the permission of the instructor and the Graduate Advisor.

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**Requirements for the Doctor’s Degree**

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3. Foreign Language Requirement. The candidate must satisfy the foreign language requirement in one Slavic language other than Russian in which he has passed the Russian Language Proficiency Examination. The foreign language requirement must be satisfied no later than the end of the quarter preceding the quarter in which the M.A. examinations are to be taken.

4. Slavic Language Proficiency Examination. The candidate must pass a Departmental Russian language proficiency examination no later than the end of the quarter preceding the quarter in which the M.A. examinations are to be taken. The candidate must pass the foreign language examination, which tests proficiency in translating from English to Russian and vice-versa, before taking the Russian Language Proficiency Examination.

5. **Course Requirements:** Required of all M.A. candidates: Slavic 201; Russian 102A-102B-102C, 112A-112B-112C. Candidates for M.A. (Linguistics) must take Slavic 202 and two courses chosen from Russian 211, 212, 213, and one other literature course in the Department. Note: most of the courses required for the M.A. are open to qualified seniors with the permission of the instructor and the Graduate Advisor.

6. A written examination, based on course work and the Departmental reading list, will cover either (a) Linguistics, including a thorough knowledge of Russian phonology and grammar and an acquaintance with Comparative Slavic Linguistics, Old Church Slavic, and the history of the Russian literary language; or (b) Literature, including an acquaintance with the entire history of Russian literature from its origins to the present and a thorough knowledge of the major developments and figures of the nineteenth and early twentieth centuries.

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8. **Statute of Limitations:** The Department does not encourage part-time or non-resident M.A. candidates. The M.A. examinations must be taken within two calendar years from the time of admission to the Graduate Division (time spent in removing deficiencies, to a maximum of one year, does not count toward this two-year period).

9. Students who fail either the written or the oral examination may retake it once, not later than one calendar year after the first attempt.

10. A grade of "High Pass" on the M.A. examination is required of the student for admission to the Department’s doctoral program (see below). M.A. candidates who intend to continue toward the Ph.D. should note that courses numbered 220-239 which are required for the Ph.D. may be taken before completion of the M.A.

**Slavic**


177. Baltic Languages and Cultures. [1/2 course] Twice a week: A general introduction to the three languages; Old Prussian, Lithuanian, and Latvian, their linguistic, historical and ethnic affiliations.

MRS. GIMBUTAS

M179. Baltic and Slavic Folklore and Mythology. (Same as Folklore M126.) Three hours weekly. A course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities.

199. Special Studies. (1 to 2 courses) No scheduled hours. Prerequisite: senior standing and consent of instructor.

**Graduate Linguistic Courses**

201. Introduction to Old Church Slavic. Three hours weekly. Introduction to phonology and grammar; readings. Required for the M.A. (Linguistics, Literature).


207. Introduction to Ukrainian and Belorussian. Three hours weekly. Prerequisite: course 202. Introduction to the history and structure of Ukrainian and Belorussian as contrasted to Russian.

NOTE: For key to symbols, see page 74
241A-241B. Advanced Old Church Slavic. Three hours weekly. Prerequisite: course 201.
241B. Advanced readings in canonical texts. Prerequisite: 241A. East, West and South Slavic recensions of Church Slavic. The Staff


251. Introduction to Baltic Linguistics. Three hours weekly. Prerequisite: course 202. Introduction to Baltic linguistics, with special reference to Baltic as a member of the Indo-European family and to the relationship between Baltic and the Slavic group. The Staff

261. Slavic Paleography. Three hours weekly. Prerequisite: course 201. Introduction to Slavic paleography: inscriptions, birchbark letters, Glagolitic and Cyrillic texts. The Staff

262A-262B. Western Slavic Linguistics. Three hours weekly. Prerequisite: course 222. 262A. Lekhitic. 262B. Czechoslovak, Sorbian. The Staff

263A-263B. Southern Slavic Linguistics. Three hours weekly. Prerequisite: course 223. 263A. Serbo-Croatian, Slovene. 263B. Greek, Macedonian. The Staff

282. Seminar in Structural Linguistics. Five hours weekly. Recommended preparation: selected courses in Polish and Russian. The Staff

Graduate Language Courses


290. Seminar in Comparative Slavic Literature. Three hours. Prerequisites: courses 230A-230B-230C. Selected topics. May be repeated for credit with consent of the instructor and Graduate Advisor. The Staff

295. Seminar in Literary Analysis. Three hours weekly. Selected topics. The Staff

696. Directed Individual Study or Research. (4 to 2 courses) Prerequisite: approval of the instructor and the Graduate Advisor. The Staff

597. Preparation for the Comprehensive Examination for the Master's Degree or the Qualifying Examination for the Ph.D. (4 to 2 courses) Prerequisite: consent of the instructor and the Graduate Advisor. The Staff

699. Research for Dissertation. (4 to 2 courses) The Staff

Bulgarian

103A-103B-103C. Elementary Bulgarian. Five hours weekly. Basic course in the Bulgarian language. The Staff

130. Introduction to Bulgarian Civilization. Three hours weekly. An introductory survey of the social and cultural institutions of the Bulgarian people and their historical background. The Staff

Czech

102A-102B-102C. Elementary Czech. Five hours weekly. Basic course in the Czech language. The Staff

102D-102E-102F. Advanced Czech. Three hours weekly. Prerequisite: course 102C. The Staff

155A-155B. Czech Literature. Three hours weekly. Lectures and reading in English. 155A. Survey of Czech literature from the Middle Ages to the present. 155B. Selected topics. The Staff

Polish

102A-102B-102C. Elementary Polish. Five hours weekly. Basic course in the Polish language. The Staff

102D-102E-102F. Advanced Polish. Three hours weekly. Prerequisite: course 102C. The Staff

152A-152B. Survey of Polish Literature. Three hours weekly. Lectures and readings in English. 152A. From the Middle Ages to Romanticism. 152B. From Realism to the present. The Staff

160. Polish Romanticism. Three hours weekly. Lectures and readings in English. Comparison of Polish Romanticism with that of other Slavic and Western European countries. The Staff

280. Seminar in Polish Literature. Three hours weekly. Selected topics in Polish prose, poetry and drama. The Staff

Russian

Language Courses

1. Elementary Russian. Five hours weekly plus one hour per week in laboratory. The Staff

2. Elementary Russian. Five hours weekly plus one hour per week in laboratory. The Staff

3. Elementary Russian. Five hours weekly plus one hour per week in laboratory. The Staff

4. Intermediate Russian. Five hours weekly plus one hour per week in laboratory. The Staff

5. Intermediate Russian. Five hours weekly plus one hour per week in laboratory. The Staff

6. Intermediate Russian. Five hours weekly plus one hour per week in laboratory. The Staff

10A-10B-10C. Russian Conversation. (4 course each) Three hours weekly. Prerequisite: Russian 6 or consent of instructor. Russian conversation designed to supplement the grammar and readings of courses 4-5-6. The Staff

10A-10B-10C. Russian Conversation. (4 course each) Three hours weekly. Prerequisite: Russian 101C or consent of instructor. Advanced grammatical analysis; reading of difficult texts. Required for the M.A. (Linguistics, Literature). The Staff

11A-111B-111C. Conversation and Composition. (4 course each) Two hours weekly. Prerequisite: course 6 and 10C, or permission of the instructor. Conversation and composition. Conducted in Russian. Required of majors. The Staff

11A-111B-111C. Conversation and Composition. (4 course each) Two hours weekly. Prerequisite: course 111C, or consent of the instructor. Advanced conversation and composition. Conducted in Russian. Required of the M.A. (Linguistics, Literature). The Staff

Linguistics Courses

121. Russian Phonology. Three hours weekly. Prerequisites: course 6. Introduction to transcription and articulatory phonetics, phonemics. The Staff

122. Russian Morphology. Three hours weekly. Prerequisite: course 121. Introduction to morphophonemics, inflection, derivation. The Staff

123. Historical Commentary on Modern Russian. Three hours weekly. Prerequisites: courses 121, 122. Historical explanation of the phonological and morphological anomalies of modern Russian. The Staff

Literature Courses

119. Survey of Russian Literature to Pushkin. Three hours weekly. Prerequisite: upper division standing. (Slavic majors should take this course during their sophomore year.) Lectures and readings in English. The Staff

120A-120B. Survey of Russian Literature. Three hours weekly. Prerequisite: upper division standing. (Slavic majors should take this course during their sophomore year.) Lectures and readings in English. 120A. Nineteenth Century. 120B. Twentieth Century. The Staff

124A-124F. Studies in Russian Literature. Three hours weekly. Lectures and readings in English. The following writers will be alternately discussed: A. Pushkin; B. Gogol; C. Turgenev; D. Dostoevsky; E. Tolstoy; F. Chekhov. The Staff

125. The Russian Novel in its European Setting. Three hours weekly. Prerequisite: upper division standing. Emphasis on nineteenth and twentieth-century novelists. Lectures and readings in English. The Staff

126. Survey of Russian Drama. Three hours weekly. Prerequisite: upper division standing. Major Russian plays of the 18th to 20th centuries. Lectures and readings in English. The Staff

130A-130B-130C. Russian Poetry. Three hours weekly. Prerequisite: course 6. Lectures and readings in Russian. 130A. Introduction to analysis of poetic texts. 130B. From mid-eighteenth century through precursors of Symbolism. 130C. From late-nineteenth century through contemporary Soviet verse. The Staff

134. Pushkin. Three hours weekly. Prerequisite: course 6. Major poetic works. Lectures and readings in Russian. The Staff

140A-140D. Russian Prose. Three hours weekly. Prerequisite: course 6. Lectures and reading in Russian. 140A. Major writers from Karamzin to Turgenev; 140B. Dostoevsky to Gorky; 140C. Contemporary writers; 140D. Advanced readings in Russian prose. The Staff

1510. Russian Folk Literature. (Same as folklore M150) Three hours weekly. Lectures and readings in Russian. The Staff

193. Seminar in Russian Literature. Three hours. Prerequisite: Russian 6 or consent of the instructor; Russian 101C recommended. Reading and discussion of selected authors; written seminar papers will usually be required. The Staff

Graduate Linguistics Courses

203. Higher Course in Russian. (4 course) Two hours weekly. Prerequisite: course 102C. Reading advanced texts; advanced composition, conversation; stylistics. Required two quarters/year of all enrolled post-M.A. students. May be repeated for credit. The Staff

204. Introduction to the History of the Russian Literary Language. Three hours weekly. Prerequisites: course 123, Slavic 99A-99B. Introductory survey of literary Russian in its cultural and historical setting. Required for the M.A. (Linguistics, Literature). The Staff

210. Readings in Russian Historical Texts. Three hours weekly. Prerequisites: Slavic 201 or consent of instructor. Readings in early Russian chronicles and other documents of historical interest. The Staff


243A-243B, Historical Phonology and Morphology of Russian. Three hours weekly. Prerequisite: course 212. 243A. Survey of Russian historical phonology and grammar. 243B. Selected topics. Required for the Ph.D. (Linguistics). The Staff

263. Russian Dialectology. Three hours weekly. Prerequisites: courses 243A-243B. Introduction to the phonology and grammar of modern Great Russian dialects. The Staff

264. The Evolution of Literary Russian. Three hours weekly. Prerequisites: course 204, Slavic 201. Lectures and analysis of texts. Eleventh to twentieth centuries. The Staff


266. Russian Lexicology. Three hours weekly. An introduction to the formal and semantic patterning of the Russian lexicon. The Staff

Graduate Literature Courses

211. Eighteenth Century Russian Literature. Three hours weekly. Lectures and readings in major and secondary writers. Required for the M.A. (Linguistics, Literature; see M.A. requirements). The Staff

212. Nineteenth Century Russian Literature. Three hours weekly. Lectures and readings in major and secondary writers. Required for the M.A. (Linguistics, Literature; see M.A. requirements). The Staff

213. Twentieth Century Russian Literature. Three hours weekly. Lectures and readings in major and secondary writers. Required for the M.A. (Linguistics, Literature; see M.A. requirements). The Staff

215A-215B. Old Russian Literature. Three hours weekly. 215A. Survey of Old Russian literature from the Kievan period through the seventeenth century. 215B. Selected topics. 215A required for the Ph.D. (Literature). The Staff

270. Russian Poetics. Three hours weekly. Prerequisites: courses 130A-130B-130C. Introduction to the technical study of Russian poetics and versification. Recommended as preparation for course 290. The Staff

290. Seminar in Russian Poetry. Three hours weekly. Prerequisites: courses 130A-130B-130C. Recommended preparation: course 270. Selections made by or with consent of the instructor and the Graduate Advisor. The Staff

291A. Seminar in Old Russian Literature. Three hours weekly. Prerequisite: course 251. The Staff

291B. Seminar in Eighteenth Century Russian Literature. Three hours weekly. Prerequisite: course 211. Selected topics. May be repeated with consent of the instructor and the Graduate Advisor. The Staff

292. Seminar in Nineteenth Century Russian Literature. Three hours weekly. Prerequisite: course 212. Selected authors and works. May be repeated for credit with consent of the instructor and the Graduate Advisor. The Staff

293. Seminar in Twentieth Century Russian Literature. Three hours weekly. Prerequisite: course 213 selected authors and works. May be repeated for credit with consent of the instructor and the Graduate Advisor. The Staff

294. Seminar in Russian Literary Criticism. Three hours weekly. Prerequisites: courses 211, 212, 213. Selected topics. May be repeated with consent of the instructor and the Graduate Advisor. The Staff

295. Seminar in Slavic Linguistics. Three hours weekly. Prerequisites: courses 110A-110B-110C. Recommended preparation: course 190. Selected topics. May be repeated with consent of the instructor and the Graduate Advisor. The Staff

296. Seminar in Russian Translation. Three hours weekly. Prerequisites: courses 291A-291B. Selected topics. May be repeated with consent of the instructor and the Graduate Advisor. The Staff

Serbo-Croatian

103A-103B-103C. Elementary Serbo-Croatian. Five hours weekly. Basic course in the Serbo-Croatian language. The Staff

103D-103E-103F. Advanced Serbo-Croatian. Three hours weekly. Prerequisite: course 103C. The Staff

154A-154B. Yugoslav Literature. Three hours weekly. Lectures and readings in English. 154A. Survey of Yugoslav literature from the Middle Ages to the present. 154B. Selected topics. The Staff

Slovak

222. The Structure of Slovak. Three hours weekly. Prerequisite: Slavic 202: Slovak 222 recommended. Introduction to the phonological and morphological structure of the Slovak language, especially as contrasted with Czech. The Staff

Ukrainian

101A-101B-101C. Elementary Ukrainian. Five hours weekly. Basic course in the Ukrainian language. The Staff

Non-Slavic Languages of Eastern Europe

Lithuanian

101A-101B-101C. Elementary Lithuanian. Five hours weekly. Basic course in the Lithuanian language. The Staff

Romanian

101A-101B-101C. Elementary Romanian. Five hours weekly. Basic course in the Romanian language. The Staff

130. Introduction to Romanian Civilization. Three hours weekly. An introductory survey of the social and cultural institutions of the Romanian people and their historical background. The Staff

201. Romanian as a Romance Language. Three hours weekly. 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. The Staff

Related Courses in Other Departments

History 146A-146D. Linguistics 100, 110, 113, 120A-120B, M150, as well as several of the graduate courses in Linguistics.

SOCIAL WELFARE

(Department Office, 200 Dodd Hall)

Jerome Cohen, Ph.D., Professor of Social Welfare
Maurice F. Conner, D.S.W., Professor of Social Welfare (Chairman)
Jeanne M. Giovannoni, Ph.D., Professor of Social Welfare
Carol W. Williams, Assistant Professor of Social Welfare

Doris S. Soliz, M.S.W., Field Work Consultant (Chairman of Admissions and Student Affairs)
Laura S. Wiltz, M.S.W., Field Work Consultant

Graduate Courses

201A-201B-210C. Dynamics of Human Behavior I, II, III. (9 hours each) Lecture; two hours; laboratory, one hour. Credit to be given at the completion of the sequence 201A-201B-210C. Required for the Ph.D. (Department Office 200 Dodd Hall)

210A-210B-210C. Basic Social Work Practice I, II, III. (9 hours each) Lecture; two hours; laboratory, one hour. Credit to be given at the completion of the sequence 210A-210B-210C. Required for the Ph.D. (Chairperson, Social Welfare)

220. History and Philosophy of Social Welfare. (3 hours) Study of the development of social welfare and the origins of social institutions and their functions in contemporary society. (Chairman, Social Welfare)

221A. Social Welfare Policy and Services I. (4 hours) Nature, roles and history of welfare institutions in different societies; applicable social system...
theory with special reference to values as seen by different components of the welfare system; theory and research about needs met and not met, about values and organizational values, and about social change to prevent needs.

211B. Social Welfare Policy and Services II. (4 course) Prerequisite: consent of the instructor. Study of income-maintenance policy and services. Introduces theory and research about selected levels of living, requirements and source of income, and their relevance for family and social well-being; analysis of various income-maintenance policies and services; causes and nature of poverty. Current anti-poverty legislation.

222A-222B-222C. Social Welfare Administration I, II, III. (4 course each) Prerequisite: student status and/or permission of the instructor. Study of methods by which welfare policies are formulated and translated into action, the nature of organizational and research processes involved in welfare administration; role of welfare agency personnel in policy formulation, implementation and evaluation.

223. Seminar on the Social Work Profession. (4 course) The nature and role of social work in contemporary society; relationships with other professions; probable future trends in the profession; social work ethics, professional organizations, certification licensing; professional responsibility for continued self-criticism and improvement of the profession.

224A-224B-224C. History and Philosophy of Social Welfare. Prerequisite: Doctoral status and/or permission of the instructor. Analysis of theories of organizational behavior affecting social welfare systems (including supranational systems transcending national boundaries), their directions, goals, values, and relationships to social work. Application of organizational theory to planning, organizing, and administering welfare agencies is stressed.

227A-227B-227C. Comparative Social Welfare Theories and Programs. Prerequisite: Doctoral status and/or permission of the instructor. Analysis of interrelationships between nations' welfare services and the social, economic, religious, and broader cultural values. Study of theoretical, historical and political factors which develop social welfare systems, and attitudes historically affecting social welfare examined.

225A-225B-225C. Social Welfare Systems. Prerequisite: Doctoral status and/or permission of the instructor. Analysis of theories of organizational behavior affecting social welfare systems (including supranational systems transcending national boundaries), their directions, goals, values, and relationships to social work. Application of organizational theory to planning, organizing, and administering welfare agencies is stressed.

228A-228B-228C. Social Work Research. (4 course) Prerequisite: consent of instructor. Techniques and issues in counseling families, through evaluation, feedback, and treatment. Social and psychological stresses on family unit, professional's reactions, community resources, and issues of genetic counseling in decision-making process.

245A-245B-245C. Development of Social Work Practice Theory. Prerequisite: Doctoral status and/or permission of the instructor. Critical analysis of social work practice theories in historical, social, and scientific contexts, with attention to how theory becomes modified through application to practice.

254. Counseling Families of Handicapped Children. (4 course) (Same as Psychiatry M254.) Prerequisite: consent of instructor. Techniques and issues in counseling families of children with disabilities.

257A. Family System: Psychological and Social Perspectives on the Family. (Same as Psychology M275.) This 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.

261A-261B-261C. Advanced Social Welfare Research. (4 course each) Credit to be given only at the completion of the sequence. Group research projects requiring intensive examination and analysis and directed towards the development of research knowledge and techniques for social work practice. This course is offered on a Pass/Fail basis, which requires students to complete the full three-quarter sequence, at the end of which time a grade is given for all quarters of work.

285A-285B-285C. Research in Social Welfare. Prerequisite: Doctoral status and/or permission of the instructor. Review of areas of research of concern to social workers with special attention to design, instrument construction, data collection, data processing, data reduction, analysis and interpretation. Designs studied will include survey, panel, experimental observation, and theory development research.

286A-286B-286C. Survey Method Research. Prerequisite: Doctoral status and/or permission of the instructor. Purpose to present basic concepts underlying research methods. Content includes theoretical and conceptual approaches to research problem formulation; research design, including experimental, comparative and survey; sampling, statistical methods; methods of observation and technique of data analysis.

290A-290B-290C. Seminar in Social Work. (4 course each) A series of seminars dealing with trends in social work and social welfare, with the focus on current social problems affecting individuals, groups, and communities and new patterns of intervention based on recent demonstrations and research.

Professional Courses

240A-401B-401C. Practicum in Social Work. Laboratory, 20 hours weekly. Educationally directed practicum conducted in selected health, welfare and educational facilities. The major objective is to provide opportunities for the student to test his theoretical knowledge and to acquire a disciplined practice foundation in his profession.

402A-402B-402C. Advanced Practicum in Social Work. (1 course each) Prerequisite: course 240A, 401B, 401C. Laboratory, 24 hours weekly. Practicum in social work is arranged for the student in keeping with his major field of study.

501. Cooperative Program. (1 to 2 courses) Prerequisite: approval of UCLA Graduate Adviser and Graduate Dean. Approval of host campus Instructor. Department Chairmen and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

Individual Study and Research

596A. Special Study and Research for M.S.W. Degree Candidates. (1 to 2 courses) Individual programming for selected students to permit pursuit of a subject in greater depth.

596B. Special Study and Research for D.S.W. Degree Candidates. (1 to 2 courses) Prerequisite: Doctoral status and/or permission of the instructor. S/U and letter grade.

597A. Preparation for the Comprehensive Examination for the M.S.W. Degree. (1 to 2 courses) Prerequisite: consent of the instructor.

597B. Preparation for the Qualifying Examination for the D.S.W. Degree. (1 to 2 courses) Prerequisite: Doctoral status and/or permission of the instructor.

599. Dissertation Research in Social Welfare for D.S.W. Degree Candidates. (1 to 2 courses) Prerequisite: Doctoral status and/or permission of the instructor.

SOCIOLGY

(Deans Office, 264 Haines Hall)

Howard E. Freeman, Ph.D., Professor of Sociology. Harold Garfinkel, Ph.D., Professor of Sociology. Oscar Grundy, Ph.D., Professor of Sociology. Gene N. Levine, Ph.D., Professor of Sociology. Georges Sabagh, Ph.D., Professor of Sociology. Melvin Seeman, Ph.D., Professor of Sociology. Chairman of the Department.

Donald J. Trowman, Ph.D., Professor of Sociology. Ralph H. Turner, Ph.D., Professor of Sociology. Maurice Zoloth, Ph.D., Professor of Sociology. Leo J. Kuper, Ph.D., Emeritus Professor of Sociology. Richard T. Morris, Ph.D., Emeritus Professor of Sociology. Rodolfo Alvarez, Ph.D., Associate Professor of Sociology. Kenneth D. Bailey, Ph.D., Associate Professor of Sociology. Philippa Bonacich, Ph.D., Professor of Sociology. Robert M. Emerson, Ph.D., Associate Professor of Sociology. Lucie C. Hirata, Ph.D., Associate Professor of Sociology. John E. Hanson, Ph.D., Professor of Sociology. Ivan H. Light, Ph.D., Associate Professor of Sociology. David E. Lopez, Ph.D., Associate Professor of Sociology. Dave D. Price, Ph.D., Associate Professor of Sociology. Valerie K. Oppenheimer, Ph.D., Associate Professor of Sociology.

Melvin Pollock, Ph.D., Associate Professor of Sociology. Jerome Rabow, Ph.D., Associate Professor of Sociology. Ernmaur A. Schegloff, Ph.D., Associate Professor of Sociology. Samuel J. Suissa, Ph.D., Associate Professor of Sociology. Warren D. Thelenhouten, Ph.D., Associate Professor of Sociology. Jeffrey Alexander, Ph.D., Assistant Professor of Sociology. Jack Katz, Ph.D., Assistant Professor of Sociology. Linda B. Nilson, Ph.D., Assistant Professor of Sociology. Melvin Oliver, Ph.D., Assistant Professor of Sociology. Jeffrey Frager, Assistant Professor of Sociology. William G. Roy, Assistant Professor of Sociology. Lynne Z. Zuckett, Ph.D., Assistant Professor of Sociology.

Assistant Professor of Sociology.
The primary purpose of the major in Sociology is to contribute directly to the student's capacity for critical analysis and understanding of social phenomena. It is intended at the same time to serve as preparation for those who plan a career in areas such as the following: high school or junior college teaching, social work, architecture and urban planning, law, public health, and government service. It also provides training for advanced graduate work in Sociology and Social Psychology.

Preparation for the Major

An introductory course, Sociology 1 or 101, is required. Students required at the lower division level is a statistics course, Sociology 18. Alternatively, this requirement can be met with Mathematics 50A, Psychology 41, Economics 40, or Public Health 100A.

Also required at the lower division level are two courses from Group A: Mathematics 2, 4A, Philosophy 31; Economics 1, 2; or Linguistics 1; and two courses from Group B: Anthropology 5A, 5C, 22; History 1A, 1B, 1C, Philosophy 7, 21; Political Science 30, 10; or Geography 3. These courses may be used to satisfy all courses required for the major in Sociology, including lower division and allied field courses, must be taken for a letter grade. A 2.0 grade point average is required for the preparation and for the major.

The Major

Ten upper division Sociology courses, not including courses 199 and 199A, are required for the major. These ten courses must include the following: (40 units)

(1) Sociology 109 and Sociology 112 or 113. These courses, devoted to the systematic exploration of sociological methods and theories, introduce students to the skills and concepts necessary for upper division work in the Department. Students are strongly advised to complete these two required courses 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 are required to complete the major. The allied fields are: Anthropology, Economics, Geography, History, Political Science and Psychology. Each concentration has its own set of recommended allied field courses. This list of courses (and faculty advisors) is available from the Department's Undergraduate Counselor in Haines Hall 254B. Students are encouraged to examine these specific concentration-related listings as well as consult the respective faculty advisor for each concentration.

Concentrations for the Major

By the end of the junior and no later than the beginning of the senior year, students are required to declare their specific concentration by filing a statement with the Undergraduate Counselor. The purpose of the concentration requirement is to expose the student to systematic, in-depth work within a specific area of sociology. Completion of a concentration will require four upper division Sociology courses, as well as four upper division allied field courses. A student must take a concentration's required course (if any) before declaring that concentration. Students are required to select one of the following concentrations and to meet the following course requirements:

(1) Comparative and Historical Sociology

Required: 138
Two of the following: 120, 126, 140, 141.
One of the following: 130-137.

(2) Organizations

Required: 121
Three of the following: 120, 123, 128, 140, 141, 147, 152.

(3) Political Sociology

Required: 140 and 143
Three of the following: 114, 120, 124, M143, 147, 150.

(4) Quantitative Sociology

The student should consult the Faculty Advisor for pre-major requirements for this concentration.

Required: 116 and 138
Three of the following: 123, 126, 152 and 154
Recommended: Math 152AB instead of Sociology 18 on the Prep.

(5) Race and Ethnicity

Required: 124 and 138
Two of the following: 120, 123, 151, and 155.
One of the following: 130-137.

(6) Social Change and Modern Society

Required: 120 and 138
Two of the following: 123, 140 and 150.
One of the following: 124, 125, 136, 141.

(7) Social Demography

Required: 126 and 138
Three of the following: 116, 123, 132, and 160.

(8) Social Organization and Language: Thought and Experience

Four of the following: 144AB, 148, 149, 153, 157, and 159.

(9) Social Psychology

Required: 154 and 155
Three of the following: 115, 150, 151, 152, 153, and 155.

(10) Social Stratification

Required: 123 and 138
Three of the following: 114, 116, 124, 128, 136, 140, 155, and 160.

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 four of the Sociology courses must be taken while in residence in the College of Letters and Science on this campus.

Students are encouraged to consult the Undergraduate Counselor in Haines Hall 254B whenever problems arise with regard to their academic programs. This office also provides counseling for students interested in obtaining career advice.

(Note: The Honors Program section remains the same. Delete all Core Area designations (I-VI) listed on page 22 of the General Catalogue 1978-79 edition.)

Courses 109, 210A and 210B are recommended for students who intend to pursue graduate work in Sociology.

The 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 member of the sociology faculty. The project culminates with an honors thesis or paper. The main advantage provided is the opportunity to work closely with individual faculty sponsors. Students intending to obtain advanced degrees with this program are encouraged to select a faculty advisor early in their junior year. Students selected will enroll in Sociology 199HA, B, and C in their senior year. These courses will count toward the ten upper division course requirement for all Sociology majors. Upon completing these courses, students will graduate either with Departmental Honors or Highest Honors on their record. Qualifications: In order to qualify for the program the student must have a 3.5 overall grade point average, have completed the Sociology Preparatory requirements and, in most cases, have completed the required theory course. Applications are available in the Sociology Undergraduate Counselor's office, 254B Haines Hall. Students should apply in the last quarter of their junior year.

Requirements for the Master's Degree

For the M.A. degree in sociology, the student is required (1) to complete an acceptable program of a minimum of nine upper division and graduate level courses (the equivalent of 4 quarter units each), (2) to pass two departmental examinations in statistics or complete courses 210A-210B with grades of C or better; (3) to complete one of the two-quarter methodology sequences in the series numbered 212-218; and (4) to satisfy the faculty that he has an adequate command of sociological theory, methodology, and substantive knowledge as demonstrated by submission of an acceptable dossier of written papers, as prescribed in departmental regulations. Those students who plan to seek the Ph.D. are advised to complete the foreign language requirement or its equivalent some time during their first year of graduate study. The M.A. degree is especially intended to qualify students who plan to become junior college teachers. Students are encouraged to plan their programs so as to fulfill the requirements for the junior college or secondary teaching credentials. Details on credential matters may be obtained from the Credentials Counselor in the School of Education.

Requirements for the Ph.D. Degree

Candidates for the doctor's degree must conform to the requirements set by the Graduate Division for the Ph.D. degree. It should be emphasized that the granting of the doctor's degree does not depend upon the satisfactory completion of a specified number of courses or credits but depends upon the student demonstrating competence as research scholars and ability to give instruction in the field.

In addition to the general requirements set by the Graduate Division, every prospective candidate for the doctor's degree must fulfill the following:

1. Pass a preliminary examination in English, German, Spanish, Italian, Russian, or other language approved by the Department. (a) Or, as an alternative, the student could complete course 5 of a language, or the equivalent, with a minimum grade of C, or five quarters of study of one language with a minimum grade of C in each course. (b) A second alternative is for students who might find it equally preferable for their research to study sources in an allied field such as history, political science, linguistics, psychology, economics, philosophy, or mathematics. The student 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. In order to do this, students must submit the proposed list of courses to their Ph.D. committee, or to the Executive Committee if no Ph.D. committee has been formed, with a justification for the set of courses presumably based on the potential contribution of these courses to their Ph.D. research. Only courses taken while the student is a graduate student will count toward fulfilling this requirement; and once approved, any substitution of courses for those originally approved would require full committee approval. (2) Pass two preliminary examinations in statistics or complete courses 210A-210B with grades of C or better. 3. Complete two of the two-
quarter methodology sequences in the series numbered 212-218. 4. Satisfy the faculty that an adequate command of sociological theory, methodology, and substance has been demonstrated by submission of an acceptable dossier of written papers, as prescribed in departmental regulations. 5. Pass written examinations in two special fields. 6. Pass a qualifying oral examination. 7. Prepare a satisfactory doctoral dissertation embodying the results of original research. 8. At the option of the certifying members of the candidate's doctoral committee, a final oral examination may be deemed necessary. Detailed interpretations are described in a brochure which may be secured from the Graduate Affairs Office of the Department. The dissertation will be in accordance with the requirements of the Graduate Division. Before the dissertation is begun, the subject must be approved in writing by the student's graduate advisor.

Lower Division Courses
1. Introductory Sociology. No credit will be given for this course to students who have completed Sociology 101. Survey of the characteristics of social life, the processes of social interaction, and the tools of sociological investigation. [The Staff]

18. Interpretation of Quantitative Data. Prerequisite: course 1 or 101, or may be taken concurrently. Satisfies the statistics requirement for the major in sociology. Reading graphs and tables; statistical analysis 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 drawn from recent issues of American Sociological Review or other leading sociological journals. [The Staff]

Upper Division Courses
Course 1, or the equivalent, and upper division standing (upper division standing may be waived by permission of the instructor) are prerequisite to all upper division Sociology.

101. Principles of Sociology. Prerequisite: upper division standing. No credit will be given for this course if course 1 has been completed. For upper division students who have not taken Sociology 1. A more intensive introduction to sociology than is given in course 1. May not be counted on the major. [The Staff]

109. Introduction to Sociological Research Methods. A systematic treatment and semiquantitative skills of use in sociological research, e.g., classification, questionnaire and schedule design, interview design, content analysis, critical analysis of studies, conceptual analysis of case materials. Field work may be required for this course. [Mrs. Bailey, Mr. Harrison, Mr. TenHouten]

112. Development of Sociological Theory. A comparative survey of basic concepts and theories in Sociology, 1850-1920; the codification of analytic schemes; a critical analysis of trends in theory construction. [Mr. Alexander, Mr. Bailey, Mr. Horton]

113. Contemporary Sociological Theory. A critical examination of significant theoretical formulations, 1920 to the present; an analysis of the relationship between theoretical development and current research emphasis. [Mr. Garfinkel, Ms. Hirata, Mr. TenHouten]

114. Marxist Sociology. The course will stress the fundamentals of Marxist theory and method and their historical development. Attention will be given throughout to continuing debates within Marxism, and between Marxism and other schools of sociological thought. This course does not meet the theory requirement for the major. [Mr. Horton]

115. Experimentation and Laboratory Methodology in Sociology. Prerequisites: courses 18 or equivalent introductory statistics and introductory social psychology. This course provides opportunities for students to participate as observers, subjects, and experimenters in a variety of laboratory and simulations of social and political behavior. Emphasis is placed on the use of properly designed and executed methodologies. Supported techniques as aids in conducting, analyzing and interpreting their experiences in these settings. [Shure]

116. Introduction to Mathematical Sociology. Prerequisite: Mathematics 2, 4A (a course whose contents include introductory linear algebra, matrix algebra, and differential and integral calculus), and Sociology 18 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. [McFarland]

120. Social Change. A study of patterns of social change, resistance to change, and change-producing agencies and processes. [Mr. Alexander, Mr. Roy, Mr. Surace]

121. Organizations and Society. Sociological analysis of organizations and their social environment. An introduction to basic theories, concepts, methods, and research on the behavior of organizations in society. [Mr. Alvarez, Mr. Grusky, Mr. Surace]

122. Mass Communications. Formal organization, functions, and development of the mass media; communications as a social process; cultural patterns; audience characteristics; communications and behavior. Aspects of media use and influence of the American media are compared with other systems, e.g., Soviet, British, Arabic. Field work may be required for this course. [Mr. Levine]

123. Social Stratification. An analysis of American social structure in terms of evaluative differentiation. Top-down criteria for differentiation, bases for evaluation, types of stratification, the composition of strata and status systems, mobility, consequences of stratification and problems of methodology. [Mr. Lopez, Mr. McFarland, Ms. Nilson]

124. Ethnic and Status Groups. The characteristics of the "visible" ethnic groups, e.g., Japanese, Mexican and Negro, their organization, acculturation, and differentiation. The development, operation and influence of ethnic stereotypes, social class and ethnic relations, mobility. The status of the chief minorities in the continental U.S., with comparative materials drawn from Jamaica, Hawaii, and other areas. [Mr. Alvarez, Mr. Kitano, Mr. Prager]

125. Urban Sociology. Urban and rural cultures, the characteristics of cities in Western civilization, with emphasis on the American metropolis. [Mr. Light, Mr. Oliver]


128. Occupations and Professions. Description and analysis of representative occupations and professions, with emphasis upon the contemporary United States. [Mr. Light, Ms. Nilson, Ms. Oppenheimer]

129. White Racism. Verbal and metaphorical stereotyping of blacks, whites and other subdominant and non-white groups or social classes; homosocial comparisons; impact of media; institutional racism, educational and economic; political mobilization of black and poor communities; the study of strategies for resisting white racism. [The Staff]

130. Social Processes in Africa. A course in comparative sociology. A study of selected processes in African societies, primarily in the fields of urban sociology, social structure and social change, involving an interdisciplinary approach. [The Staff]

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 relationships between urban and rural life. [Mr. Lopez]

132. Population and Society in the Middle East. Prerequisite: upper division standing and consent of the instructor. A survey of the Middle Eastern societies, their historic and environmental bases; the contemporary demographic and social situations. [Mr. Sabagh]

133. Comparative Sociology of the Middle East. Prerequisite: upper division standing and consent of the instructor. A survey of the Middle Eastern societies in Islam and their diversity exemplified by such nomadic peoples as the Bedouin. [The Staff]

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. Hirata]

135. Structure and Process of American Society. Analysis of interrelationships among structures and processes in American society, with emphasis on patterns of differentiation, exchange, control, and belief formation. The question of boundary definition both within and between social groupings will be considered. [Mr. Roy, Mr. Zeitlin]

137. Comparative Studies of Jewish Communities in the U.S. and Abroad. The history, distribution, structure, and functions of Jewish communities is covered, with particular focus upon North America and Israel. Interrelationships and sources of conflict between Jews and Gentiles in Western countries are taken up. More generally, the economic and social integration of Diaspora Jewish communities is treated. Field work may be required for this course. [Mr. Levine]

138. Comparative and Historical Sociology. Prerequisite: course 1/101. A survey of the central themes of comparative and historical studies in sociology. The major aspects of the development of modern societies 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. Hirata, Mr. Prager, Mr. Roy]

140. Political Sociology. The contributions of sociology to the study of politics including the analysis of political aspects of social systems, the social context of action, and the social bases of power. [Mr. Roy, Mr. Zeitlin]

141. Economy and Society. The sociology of economic life with emphasis upon principal economic institutions of the United States. [Mr. Light]

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. [The Staff]

M143. Sociology of Education. (Same as Education M108.) Studies of social processes and interaction patterns in educational organizations, the relationships of such organizations to society, social class and power, social relations within the school, formal and informal groups, school culture, roles of teachers, students, and administrators. [Mr. Gordon, 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 the turn and of conversational 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. Bonacich

146. Criminology. Theories of the genesis of crime; factors in the organization of criminal behavior from the points of view of the person and group; criminal behavior systems.

Mr. Katz, Mr. Rabow

147. Control of Crime. Theories of punishment; methods of dealing with convicts; social policies of police activity and parole. Field work is a required feature of this course.

Mr. Emerson, Mr. Rabow

148. Normal Environments. Structural interpretation of the control of production, management and alteration of preceivedly normal interpersonal environments. Field work is a required feature of this course.

Mr. Garfinkel, Mr. Polnner

149. A Study of Norms. Properties of norms, of normatively governed conduct, of lay and professional methods of enforcement, of the use and modification, validating norms in contrasting settings of socially organized activities; relevance of these properties for the programmatic problems of analytic sociology. Field work is a required feature of this course.

Mr. Garfinkel, Mr. Polnner

150. Collective Behavior. Prerequisite: course 1 or equivalent, course 18 or equivalent, and upper division standing. Characteristics of crowds, mobs, publics, social movements, and revolutions. Their relation to social unrest and the role in developing and changing social organization.

Mr. Prager, Mr. Seeman, Mr. Turner

151. Culture and Personality. Prerequisite: course 1 or equivalent, course 18 or equivalent, and upper division standing. Theories of the relation of variations in personality to culture and group life, in primitive and modern societies, and the influence of social role on behavior.

Mr. Turner

152. Group Processes. Systematic study of the formation, structure, and functioning of groups; analysis of group morale and group productivity from a variety of theoretical viewpoints; implications of various research techniques.

Mr. Bonacich, Mr. Rabow, Ms. Zucker

153. Process and Socialization in the Family. Prerequisite: course 1 or equivalent, course 18 or equivalent, and upper division standing. Examination of the processes of interaction, decision-making, role differentiation, conflict, integration, and socialization within the family and their interrelations with society.

Mr. Turner

154. Social Psychology: Sociological Approaches. A survey of the contribution of sociologists to theory and research in social psychology including theories of social control; conformity and deviation; reference groups; and interaction process.

Mr. Bonacich, Mr. Grusky, Mr. Rabow

155. Intergroup Conflict and Prejudice. A study of the causes and consequences of group conflict, with emphasis upon majority-minority relations, prejudice and discrimination. Special attention is given to alternative sociological and psychological theories of prejudice; the effects of majority status upon the individual; and the possibilities for attitude and behavior change.

Mr. Oliver, Mr. Seeman

156. Psychoanalytic Sociology. Prerequisites: Introduction to Sociology 101, Psychology 101, and Sociology 18. A course in theory (112/113) is recommended, as well as a course in Social Psychology. A course designed to review the models of integration, between psychoanalysis and sociology. This analytical approach is intended to select and improve substantive areas and social processes. The areas include, but are not limited to, group development, delinquency, and deviance. The processes include social interactions, identity and self formation, role taking and role making.

Mr. Rabow

157. Sociology of Mental Illness. Analysis of the major sociological and social psychological models of madness. Study of the social processes involved in the production, recognition, labeling and treatment of 'mental illness.'

Mr. Emerson, Mr. Goldstein, Mr. Pollner

158. Death and Suicide: Psychological and Sociomedical Aspects. Prerequisite: M163J. Junior required. This course is offered on both a pass/not pass and letter grade basis. The definition and taxonomy of death; the new permissiveness and taboo conditions of death; the romanticization of death; the role of the individual in his own demise; the modes of death; development of ideas of deaths through the life span; ways in which ideas of death may be changed on a cultural level; the effects of dying on the social structure surrounding the individual; preventive, interventive and postventive practices in relation to death and suicide; partial death; megadeath; lethality; the psychological autopsy; the death of institutions and cultures.

Mr. Sheindman

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 bodies of knowledge and cognitive styles which people develop. The process of communication is being studied in every day, organizational, and extraordinary contexts.

Mr. Pollner, Mr. Rabow, Mr. TenHouten

160. The Demography and Sociology of Women's Economic Roles. Prerequisites: Economics 18, or Mathematics 50, or Psychology 41, or Economics 140 or Public Health 160A or by consent of the instructor. A demographic and sociological analysis of the factors affecting women's economic roles in the world of work and the family. Topics to be considered include demographic determinants of women's socioeconomic roles, women's changing employment patterns, and the influence of men's and women's contribution to the socioeconomic structure of the family, the socioeconomic position of women without men to support them, future trends, and social policy affecting women's status.

Mr. TenHouten

161. The Social Organization of Psychiatric Treatment. Review of current research and theory on psychiatric treatment processes and treatment organizations, including mental hospitals and community mental health organizations. The course is strongly recommended as a prerequisite for this course.

Mr. Emerson, Mr. Grusky

Advanced Studies

181-186. Undergraduate Seminars. Prerequisites: upper division standing, major in Sociology, and permission of the instructor. These courses are listed under each of six core areas, with 181 in Core Area I, 182 in Core Area II, etc. The Staff

199. Special Studies (4 to 2 courses) Prerequisite: senior standing. Two courses in 1 and 18 or the accepted equivalent required, consent of instructor and department chairman. A course of independent study designed for graduate or senior undergraduate students who (a) desire more advanced or specialized treatment of an area covered in the regular course list and who present that course as a prerequisite; or (b) desire work in an area of sociological analysis currently not covered by an upper division course. Only 8 units are allowed. See Undergraduate Counselor for course contract.

The Staff

199HA-199HB-199HC. Special Study for Honors. Prerequisite: Admission to the Sociology Department Honors Program.

199HA. Design of a research project to serve as the student's honors thesis. A research proposal, including a bibliography and plans with the sponsoring faculty member will be required.

199HB. Continuation of work initiated in 199HA. A series of progress reports will be prepared in consultation with the instructor.

199HC. Completion of the written report or honors thesis.

The Staff

Graduate Courses

201A-201B. Proseminar in Sociology. Prerequisite: graduate status. A comprehensive survey of basic concepts and theories in the major fields of sociology. Designed primarily for graduate students in the first year of residence.

Mr. Alexander, Mr. Lopez

210A-210B. Intermediate Quantitative Methods I-II. Prerequisite: course 18 or equivalent. An intermediate level treatment of fundamentals of statistical and mathematical procedures and techniques, with emphasis on small samples; analysis of variance and experimental designs; the general linear model; systems of equations. Additional special topics that can include: use of computers, loglinear models, factor analysis, discriminant function analysis; scaling and measurement; sampling design; nonparametric techniques and measures; matrix algebra if used in coverage of listed topics. The course is offered on an In Progress basis which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for each quarter.

Mr. Bonacich, Mr. McFarland, Mr. TenHouten

210C. Intermediate Quantitative Methods III. Prerequisite: 210B. Not required for the M.A. or Ph.D. degree in sociology. This course will cover additional and more advanced multivariate techniques of particular value to sociologists.

Mr. Bonacich

212A-212B. Marxist Methodology. Prerequisite: course 112 or consent of instructor. Practice in the dialectical method of attaining scientific knowledge about society as a process and mode of production. A critical examination of methodological issues and techniques, and practical field researches.

Mr. Freeman

213A-213B. Techniques of Demographic and Ecological Analysis. Prerequisite: course 210A or equivalent. Procedures and techniques for the collection, evaluation, and analysis of demographic and ecological data; models of population and ecological structure and change; application of the study of social structure and social change.

Mr. Sabagh

214A-214B. The Measurement of Sociological Variables. Prerequisite: courses 210A-210B and consent of the instructor. A course designed to provide students with the basic fundamentals of the experimental method, particularly as it is used in social psychology. This course is offered on an In Progress basis, which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for all quarters of work.

Mr. TenHouten

215A-215B. Experimental Sociology. Prerequisite: course 210A or equivalent and consent of the instructor. A course designed to provide students with the basic fundamentals of the experimental method, particularly as it is used in social psychology. This course is offered on an In Progress basis, which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for all quarters of work.

Mr. Grusky, Mr. Rabow, Mr. Shure

216A-216B. Survey Research Methods. Course in methodology and techniques: formulation of research problem; study design; hypotheses; sampling; measurement; questionnaire and schedule construction; interviewing and data collection; processing and tabulation; analysis and interpretation; presentation of findings; cross-national, replicative, panel and other complex survey designs. Students participate in survey research project. This course is offered on an In Progress basis, which requires students to complete the full two-

NOTE: For key to symbols, see page 74
quarter sequence, at the end of which time a grade is given for all quarters of work.

Mr. Levine, Mr. Treiman

217A-217B. Ethnographic Field Work. Prerequisite: consent of the instructor. Theories and techniques of ethnographic field work. This course will consider the kinds of problems amenable to ethnographic approaches, methods and techniques for doing field work, and ethnical problems involved in such research. This course is offered on an individual basis, which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for all quarters of work.

Mr. Emerson, Mr. Pollner

218A-218B. Ethnomet hodological Methods. Prerequisite: consent of the instructor. Examination of techniques used in ethnomet hodological research, particularly in mental research designs, association and causality, models, measurement theory, sampling theory. Mr. TenHouten

219. Theory of Sociological Inquiry. Prerequisite: consent of the instructor. A general review of research following in social sciences in attempts to achieve valid theoretical knowledge. Focuses on inductive inference and theory testing: control and randomization, experimental mental research designs, association and causality, models, measurement theory, sampling theory. Mr. TenHouten

220. Role Theory. Prerequisite: graduate status and consent of the instructor. A review of theories and research dealing with social roles, with special emphasis on roles in social interaction and the formation of the social self. Mr. Turner

224A-224B. Problems in Social Psychology. Prerequisite: course 210A and consent of instructor. The basic course of graduate students intending to specialize in social psychology. The first quarter examines systematically major theoretical contributions to the field. The second quarter introduces the student to current work being done in the Department in several subfields. The Staff

225A-225B. Demographic Perspectives, and the Relationship of Family and Economic Systems. Prerequisite: course 210A-210B or consent of the instructor. An examination of the interrelationship of family and economic systems in societies at different levels of social development, focusing particularly on the U.S. experience. Central to the course is: (1) an analysis of how demographic factors affect economic and family systems; (2) how these systems, and changes in them, affect demographic variables; and (3) how this two-way process influences the relationship of family and economic systems over time. The first quarter will be primarily devoted to lectures and readings. The second quarter carries students into individual research projects involving a term paper and class room reports of results. Ms. Oppenheimer

226. Leadership and Comparative Social Structure. A comparative analysis of leadership in different social structures with particular attention to the development, maintenance, and disintegration of leadership corps and cadres. Mr. Surace

227. The Sociology of Knowledge. Prerequisite: graduate status or consent of the instructor. A survey of theories and research concerning social determinants of systems of knowledge and the role of intellectual and artistic elites in Western societies. Mr. Horton

230. Theories of Deviance. An examination of various sociological approaches to the study of deviance with special emphasis on anomie theory as the major orientation today. Special attention given to the problems of defining deviance and the articulation of sociological and psychological levels of explanation.

Mr. Emerson, Mr. Rabow, Mr. Surace

234. Sociology of Community Organization. Prerequisite: graduate status or consent of the instructor. A survey of recent and classical research and literature dealing with predominantly political institutions, the problem of order, and the organization of communal life in the village and the metropolis.

Mr. Sabagh

235. Social Structure and Social Movements. Prerequisite: graduate status or consent of the instructor. A survey of some social science theories bearing on the analysis of large scale social movements and upheavals. The causes, course and consequences of selected social movements, insurrections and revolutions will be examined. Mr. Surace

236. Social Change in the Middle East. An analysis of the sources, extent, and type of social change in the Middle East with an emphasis on the origin and sequences of industrialization and urbanization.

Mr. Sabagh

237. Social Stratification in the Middle East. Modes of social differentiation in traditional Middle Eastern societies, localization and tribalism, the counter-influence of processes leading to the recurrent emergence of societies of large scale and their distinctive structural characteristics. Mr. Sabagh

238A-238B. Field Work in Minority Communities. Prerequisite: graduate standing and consent of the instructor. This two-quarter sequence is designed to supply graduate students with the theoretical and methodological equipment necessary for studying disadvantaged minority communities. Special emphasis is given to the Black ghetto and the barrio. Nonstandard language forms (mainly Black English, and Chicano) are especially focused upon instrumentally. In the field students will gather empirical data that sheds light on the ways in which data of greater validity and practical utility might be collected among these groups. This course is offered on an In Progress basis, which requires students to complete the full two-quarter sequence, at the end of which time a grade is given for all quarters of work.

Mr. Levine

240. Mathematics of Population. Prerequisites: introductions to matrices, calculus, and probability theory. Discrete and continuous deterministic and probabilistic models of the growth and composition of a closed population classified by age, gender, and sex. Selected topics on more complicated population models.

Mr. McFarland

247. Neurosociology. Prerequisite: graduate standing and consent of the instructor. Relations between aspects of social structure and higher cortical functions. Mr. TenHouten

248. The Sociology of Cognitive Development. Prerequisite: graduate standing or consent of instructor. Analysis of ways in which mental processes are structured and organized by positions and practices in the social world, and by change and development in society.

Mr. TenHouten

M249A. Sociocultural Aspects of Health and Illness. Social Epidemiology. (Same as Public Health 252A.) Prerequisite: Public Health 164, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. A sociological examination of the concepts "health" and "illness" and role of various health professionals, medical personnel, and clients within a sociocultural context. Mr. Goldstein

M249B. Sociocultural Aspects of Health and Illness. Health Professions. (Same as Public Health 252B.) Prerequisite: 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. Goldstein

M283CJ. Prerequisite: Public Health 182, three courses in psychology, sociology, or anthropology, or equivalent, and consent of the instructor. Sociocultural factors affecting differential patterns of health behavior, illness behavior, and sick role behavior.

The Staff

Seminars

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. Bonachich, Mr. Freeman

M254A. Sociology of Law. (Same as Law M154) Prerequisite: consent of instructor. Social control functions of law and legal institutions with particular attention to the contrast between law-ways of states 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 states and tribal societies and contemporary American legal processes and institutions, primarily those of criminal law.

Mr. Emerson, Mr. Prager

255A-255B. Systematic Sociological Theory. Course 255A is prerequisite to 255B.

Mr. Alexander

256. Demography. Mr. Bailey, Mr. Sabagh

257. Sociology of the Arts. Mr. Horton

258. Sociology of Religion. The Staff

259. Social Structure and Economic Change: Historical and Comparative Perspectives. Mr. Hirata, Mr. Surace, Mr. Zeitlin

260. Industry and Society. Mr. Light, Mr. Surace

261. Ethnic Minorities. Mr. Levine, Mr. Seeman

262. Selected Problems in Urban Sociology. Mr. Light

263. Social Stratification. Mr. Treiman

264. Professions in the American Society. Mr. Bailey, Mr. Sabagh

265. Problems in Organization Theory. Mr. Schegloff

266. Selected Problems in the Analysis of Conversation. Prerequisite: course 144A or consent of the instructor.

267. Selected Problems in Communication. Mr. Pollner, Mr. Schegloff

268. Historical and Interpretive Sociology. Mr. Surace

269. Collective Behavior. Mr. Turner

270. Selected Problems in Socialization. Mr. Turner

271. Ethnomethodology. Mr. Garfinkel

272. Topics in Political Sociology. Mr. Roy, Mr. Surace, Mr. Zeitlin

273. Attitudes and Social Structure. Mr. Seeman

274. Selected Problems in the Sociology of Africa. Prerequisite: graduate standing and consent of the instructor. Selection of problems in the sociology of Africa from among the following fields: urbanization, racial and ethnic relations, nation-building, integration, and political change.

The Staff

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
Spanish and Portuguese

(Department Office, 5303 Rolfe Hall)

Shelley L. Arora, Ph.D., Professor of Spanish.
Jose R. Bercia, Lic. F. Y. L., Professor of Spanish.
Aubin A. Bezzel, Ph.D., Professor of Portuguese.
Claude L. Hulet, Ph.D., Professor of Spanish and Portuguese.
Carroll B. Johnson, Ph.D., Professor of Spanish (Chairman of the Department).
C. P. Otero, Ph.D., Professor of Spanish and Romance Linguistics.

Spanish and Portuguese

(Office of the Dean, 5303 Rolfe Hall)

Shelley L. Arora, Ph.D., Professor of Spanish.
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Carroll B. Johnson, Ph.D., Professor of Spanish (Chairman of the Department).
C. P. Otero, Ph.D., Professor of Spanish and Romance Linguistics.

Prerequisites:

Graduate standing. The seminar covers both the technical and political aspects of implementing evaluation research studies. The role of evaluation research in the development and improvement of models of sociological processes. Possible topics include models of small groups, social mobility, kinship relations, organizations, social interaction.

Mr. Bonachich, Mr. McFarland

282. Organizations and the Professions

Mr. Lanterner

284. Topics in Mental Health and Illness

Prerequisite: course 157 or equivalent and graduate standing.

Mr. Emerson, Mr. Grusky, Mr. Poliner

M278A-278B. Population Policy and Fertility. (Same as Public Health M274A-274B.) Prerequisite: Public Health 102, 112, 173 or equivalent, graduate standing, and consent of instructor. Analysis of research concerning major issues in population policy with special emphasis on human fertility. Public Health M274A is prerequisite for M274B. Sociology M278A is prerequisite for M278B.

Ms. Blake

M278C. Seminar in Population Policy and Fertility. (Same as Public Health M274C.) Prerequisite: M274A or its equivalent, graduate standing, and consent of instructor. Review of current literature in population policy and fertility in conjunction with student research reports. May not be repeated for credit.

Ms. Blake

291. Moral Solidarity in Communities. Comparative analysis of social solidarity and the collapse of social solidarity in voluntary and traditional communities. Contrasts more and less solidarity types with special reference to utopian communities and developmental processes.

Mr. Light


The Staff

495. Supervised Teaching of Sociology. Prerequisite: Teaching Assistant status in the Department of Sociology, or equivalent. A special course for teaching assistants. It is designed to deal with the problems and techniques of teaching introductory sociology.

The Staff

Individual Study and Research

501. Cooperative Program. (To two courses) Prerequisite: approval of UCLA Graduate Advisor and Graduate Dean. Approval of host campus Instructor. Department of Spanish and Portuguese.
The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.
who pass these examinations with distinction (High Pass) will be automatically eligible to enter the Ph.D. program.

Ph.D. Degree in Hispanic Languages and Literatures

General Requirements. See Doctoral Degrees.

Admission to the Doctoral Program. The UCLA M.A. in Spanish or Luso-Brazilian Language and Literature is not a terminal degree, but is primarily intended to prepare students for further graduate study. Students who hold the M.A. from UCLA fall into one of three categories and are so notified upon receipt of the degree. The categories are: (a) Lou Pass (Terminal) - Students who pass with terminal M.A.'s are not eligible for admission into the Ph.D. program; (b) High Pass - Students who pass the M.A. "with distinction" are automatically eligible for admission to the Ph.D. program, and may file Form I ("Notice of Intention to Proceed Toward the Doctoral Degree") and form their guidance committee immediately; (c) Middle Pass - Students in this category may continue toward the Ph.D. on the following probationary basis: 1) Take three graduate courses with three different members of the department; 2) Find a tenured professor who is willing to direct the dissertation; 3) File Form I which is submitted by the Graduate Advisers Committee in consultation with the professors with whom the student has studied. The entire department then votes to accept or reject the student. If accepted, the student will be advised to form his guidance committee. Students who hold the M.A. from other institutions will not be assigned to a guidance committee until their second quarter of studies in the department, after complying with the provisions of "Middle Pass." In some cases they may be required to pass the UCLA M.A. examination, normally in the second or third quarter of residence.

Foreign Language Requirement. In addition to Spanish and Portuguese, the candidate must have a reading knowledge of one other foreign language, to be chosen with the approval of the guidance committee in the light of the candidate's field of specialization. The candidate must pass the test in one of these two languages not later than in the third quarter of graduate studies and the other not later than in the seventh quarter.

Fields of Specialization. The department recognizes the following fields of specialization, from which one or more fields shall be chosen by the student under the guidance of the director of the department: (a) Medieval and Renaissance Literature; (b) The Golden Age; (c) 18th and 19th Century Spanish Literature; (d) 20th Century Spanish Literature; (e) Colonial and 19th Century American Literature; (f) Latin American Literature; (g) Portuguese Literature; (h) Brazilian Literature; (i) Spanish and Portuguese Philology and Linguistics; (j) Spanish and Luso-Brazilian Folklore. The field in which the candidate intends to present a dissertation will be designated as his major field. The minimum course requirement for the major field will be determined by the guidance committee, the minimum course requirement for a minor field in one graduate course (series 200-249) followed by a corresponding seminar (series 251-286) or the equivalent.

Course Requirement. Three upper division courses in Portuguese or Brazilian literature and a minimum, after the B.A., of 18 graduate courses and seminars, including Spanish M200, M201, M203A, and one additional graduate course in one of the above fields of specialization not chosen as a major or minor. Those students who choose Philology and Linguistics as their major field must also include Portuguese M203B, and have a specific knowledge of Galician, Galician, and Vulgar Latin, and of Old French or Old Italian.

Qualifying Examinations. The qualifying examinations will be given during the Fall, Winter, and Spring quarters and will consist of: (a) a three-hour written examination in the candidate's major field of specialization, given in the minor fields; and (c) a two-hour oral examination in the minor fields.

The qualifying examinations are normally taken no later than nine quarters after the B.A. and six quarters after receiving the M.A. At the time of the qualifying examination or subsequently, the committee may specify whether or not an oral examination is required after the acceptance of the dissertation in its final form.

The Dissertation. The dissertation may be on any subject within the general area of Spanish and Portuguese languages and literatures. If students have already completed an academic credit for those students who have completed more than one year of high school Spanish or the equivalent. The student will have, however, be credited with the equivalent of four credit units toward their literature progress requirement.

1G. Reading Course for Graduate Students. (No credit) Meets five hours weekly.

The Staff

2. Elementary Spanish. Meets five hours weekly; laboratory one hour. This course corresponds to the first year of high school Spanish. Not available for academic credit for those students who have completed more than one year of high school Spanish or the equivalent. The students who have completed more than two years of high school Spanish or the equivalent. The student will have, however, be credited with the equivalent of two credit units toward their literature progress requirement.

2G. Reading Course for Graduate Students. (No credit) Meets five hours weekly. Prerequisite: course 1G or equivalent.

The Staff

3. Elementary Spanish. Meets five hours weekly; laboratory one hour. Prerequisite: course 2 or, two years of high school Spanish, or equivalent.

The Staff

4. Intermediate Spanish. Meets five hours weekly; laboratory one hour. Prerequisite: course 3 or, three years of high school Spanish, or equivalent.

The Staff

5. Intermediate Spanish. Meets five hours weekly; laboratory one hour. Prerequisite: course 4 or four years of high school Spanish, or equivalent.

The Staff

8A-BB. Spanish Conversation. (½ course each) Beginning each quarter. Meets three hours weekly. Prerequisite: course 8A is open to those who have completed course 4, or equivalent. Students who have completed course 3 with grade B or better may be admitted.

The Staff

9A-B. Advanced Conversation. (½ course each) Beginning each quarter. Meets three hours weekly. Prerequisite: course 8B or equivalent.

The Staff

25. Advanced Spanish. Prerequisite: course 5 or equivalent. Prerequisite: course 3 or three years of high school Spanish, or equivalent.

The Staff

M42. Civilization of Spain and Portugal. (Same as Portuguese M42.) Highlights of the Civilization of Spain and Portugal with an emphasis on the artistic, economic, social and historical development as background for upper division courses. Conducted in English. Required for the major.

Mr. Cruz-Salvadores

M44. Civilization of Spanish America and Brazil. (Same as Portuguese M44.) 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. Required for the major.

Mr. Reeve, Mr. Skirius

Upper Division Courses

The basic prerequisite to all upper division courses except 160A-160B-160C is Spanish 25 or the equivalent.

100. Phonology and Pronunciation. Prerequisite: Linguistics 100. Meets four hours weekly, including one hour laboratory. Analysis of the phonetic and phonemic systems of Spanish with special emphasis on the phonemic and morphological phonemic systems and their correlation of phonological and morphological phenomena. Exercises and drills directed toward individual needs. Required for major (Plan A and Plan B).

Ms. Flann, Mr. Robe


Mr. Otero, Ms. Flann


The Staff

109. Advanced Composition. Prerequisite: course 103. Correction of student's original compositions and analysis of basic stylistic elements. The Staff

115. Applied Linguistics. Prerequisite: course 103. Meets three hours weekly. Survey of major linguistic problems faced by the teacher of Spanish.

Ms. Flann

117. The Spanish of Southern California. Prerequisites: Spanish 100 and 103 or consent of the instructor. Analysis of pronunciation, word formation, syntax, and lexicon of the Spanish of Southern California, with attention to regional, social and age levels of speech, and interference from English.

Mr. Robe

M118. History of the Portuguese and Spanish Languages. Prerequisite: Spanish 100. (Same as Portuguese M118.) Meets four hours weekly. Major features of the development of the Portuguese and Spanish languages from the origins in Vulgar Latin to modern times. Contributions of other languages to the formation of Portuguese and Spanish.

Mr. Otero, Mr. Quiroli, Mr. Smith

119. Literary Analysis. (Formerly numbered 147) An introduction to the study of literary devices, figures of speech and the differentiation of literary genres. Strongly recommended as preparation for the required courses in literature. Required for major (Plan B).

The Staff

120A-120B. Survey of Spanish Literature. Prerequisite: M42 for Spanish majors. Beginning each quarter. An introduction to the principal authors, works and movements of Spanish literature. Required for major (Plan B).

Mr. Johnson, Mr. Rodriguez-Cepeda

121A-121B. Survey of Spanish American Literature. Prerequisite: Spanish M44 for Spanish majors. Beginning each quarter. An introduction to the principal authors, works, and movements of Spanish American literature. Required for major (Plan A).

Mrs. Arora, Mr. Luzuriaga, Mr. Reeve

122. Medieval and Renaissance Literature. The main genres of Medieval and Renaissance Spanish literature with emphasis on at least one representative work for each. Recommended preparation 120A. The Staff

123. The Golden Age. The main genres of the Golden Age with emphasis on at least one representative work for each. Recommended preparation 120A.

Mr. Johnson, Mr. Rodríguez-Cepeda


Recommended preparation 120A.

Mr. Johnson, Mr. Rodríguez-Cepeda

128. Neoclassicism and Romanticism in Spain. The main manifestations of thought and literature from 1700 to 1850 with emphasis on representational works recommended preparation 120B.

Mr. Benitez

130. Spanish Literature from 1850 to 1898. The development of post-Romantic literature with emphasis on representational works. Recommended preparation 120B.

Mr. Smith

132A. Spanish Literature in the 20th Century: Poetry and Drama. Spanish poetry and theater since
1898 with emphasis on several representative works for each genre. Recommended preparation 120B.

132B. Spanish Literature in the 20th Century: Fiction and the Essay. Spanish prose genres since 1898 with emphasis on representative novels, short stories, and essays. Recommended preparation 120B. Mr. Barcia, Mr. Benítez

137. The Literature of Colonial Spanish America. A study of the most important authors and movements in the various regions of Spanish America to 1810. Recommended preparation 121A.

Mrs. Arora

139. 19th Century Spanish American Literature. A detailed study of the important writers and movements from 1810 to 1860. Recommended preparation 121A.

Mr. Luzuriaga, Mr. Reeve, Mr. Skirius

141. Mexican Literature. A study of the major Mexican literary contributions to the development of a national culture. Recommended preparation 121A.

Mr. Luzuriaga, Mr. Reeve, Mr. Skirius

142A. Spanish American Literature in the 20th Century: Poetry and Drama. A detailed study of the important lyrical and dramatic movements in Spanish America since 1898. Recommended preparation 121B.

Mr. Luzuriaga, Mr. Reeve, Mr. Skirius

M149. Folkloric Literature of the Hispanic World. (Same as Folklore M149.) A study of the history and present dissemination of the principal forms of folk literature throughout the Hispanic countries.

Mr. Arora, Mr. Robe

151. Folk Song in Spain and Spanish America. (4 course) Meets three hours weekly. A study of the origins and development of Spanish folk music and the different types of folk songs and folk poetry peculiar to the various regions of Spain and Spanish America.

The Staff

160A-160B-160C. Hispanic Literatures in Translation. (Formerly numbered 150A-150B.) Class readings and analysis of selected works in translation. Classroom discussion, papers, and examinations will be in English. Meets three times weekly.

160A. Spain and Portugal. Mr. Johnson

160B. Spanish America and Brazil. Mr. Hulet

160C. Don Quijote in English Translation. Class reading and analysis of Cervantes' Don Quijote. Mr. Johnson

170A. Senior Seminar: Topics in Spanish Literature. Prerequisite: Spanish major, senior standing, 3.50 G.P.A. in the major. Directed research on topics within the general area of Spanish literature. Two senior seminars are required for Departmental Honors. Given Fall Quarter only.

Mr. Barcia, Mr. Benítez

170B. Senior Seminar: Topics in Spanish American Literature. Prerequisite: Spanish major, senior standing, 3.50 G.P.A. in the major. Directed research on topics within the general area of Spanish American literature. Two senior seminars are required for Departmental Honors. Given Winter Quarter only.

Mr. Barcia, Mr. Luzuriaga, Mr. Reeve

170C. Senior Seminar: Topics in Hispanic Linguistics. Prerequisite: Spanish major, senior standing, 3.50 G.P.A. in the major. Directed research on topics within the general area of Hispanic linguistics. Two senior seminars are required for Departmental Honors. Given Spring Quarter only.

Mr. Otero, Mr. Robe, Mr. Smith

199. Special Studies. (4 to 1 course) Prerequisite: consent of adviser and instructor. A maximum of two full courses may count toward the major.

The Staff

Graduate Courses

M200. Bibliography. (Same as Portuguese M200.) Meets three hours weekly. Identification and analysis of bibliographical sources for work by doctoral candidates in their fields of specialization.

Mr. Benítez, Mr. Rodríguez-Cepeda

M201. Literary Criticism. (Same as Portuguese M201.) Meets three hours weekly. Definition and discussion of methods of literary criticism.

Mr. Benítez, Mr. Otero

M203A-203B. The Development of the Portuguese and Spanish Languages. (Same as Portuguese M203A-203B.) Prerequisites: course M118, 100 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. Meets three hours weekly. Prerequisite: course 204A is prerequisite to 204B, or consent of the instructor. A study of the theoretical synchronic linguistic theories as applied to Spanish.

Mr. Otero, Ms. Platt

209. Dialectology. Meets three hours weekly. Prerequisite: course 100 or 115 or equivalent. The major dialect areas of Peninsular and American Spanish, with the distinguishing features of each, influence and contribution of cultural and historical features, including indigenous languages, to their formation.

Mr. Robe

222. Medieval and Renaissance Poetry. Meets three hours weekly. Readings and lectures on Spanish poetry from the beginnings to 1550.

The Staff

223. Medieval and Renaissance Prose. Meets three hours weekly. Readings and lectures on Spanish prose from the beginnings to 1550.

The Staff

224. The Poetry of the Golden Age. Meets three hours weekly. Readings and lectures on Spanish poetry from 1550 to 1700.

The Staff

225. The Drama of the Golden Age. Meets three hours weekly. Readings and lectures on the "Comedia." Mr. Rodríguez-Cepeda


Mr. Rodríguez-Cepeda

227. Cervantes. Meets three hours weekly. Readings and lectures on the works of Cervantes.

Mr. Johnson


Mr. Benítez


Mr. Benítez, Mr. Smith

232. The Generation of 1898. Meets three hours weekly. Readings and lectures on representative works of the generation.

Mr. Barcia

233. Contemporary Spanish Drama. Meets three hours weekly. Readings and lectures on representative works of the theater since 1898.

Mr. Barcia

234. Contemporary Spanish Poetry. Meets three hours weekly. Readings and lectures on poetry since 1898.

Mr. Barcia

235. Contemporary Spanish Prose. Meets three hours weekly. Readings and lectures on the short story, the novel, and the essay since 1898.

Mr. Barcia

237. Chroniques of the Americas. Meets three hours weekly. Readings and lectures on the "Cro-nistas de Indias."

Mrs. Arora, Mr. Robe


The Staff

240. The Modernist Movement. Meets three hours weekly. An intensive study of the important writers of this movement during the period 1880-1916.

Mr. Luzuriaga


The Staff

244. Contemporary Spanish American Novel and Short Story. Meets three hours weekly. A study of the important novelists and short story writers from Modernism to the present.

Mr. Reeve


Mr. Skirius


Mr. Luzuriaga

M249. Hispanic Folk Literature. (Same as Folklore M249 and Portuguese M249.) Meets three hours weekly. An intensive study of folk literature as represented in a) ballad and poetry; b) narrative and drama; c) speech.

Mrs. Arora, Mr. Robe

Seminars

M251. Studies in Galician-Portuguese and Old Spanish. (Formerly numbered 253 and same as Portuguese M251.) Prerequisite: course M203A-203B. Problems related to the historical development of Galician-Portuguese and Old Spanish.

Mr. Otero

254A-256B. Studies in Linguistics and Dialectology. (Same as Linguistics and Dialectology M254A-256B.)

Mr. Luzuriaga

256A. Studies in Linguistics. Prerequisite: course 206.

Mr. Otero

256B. Studies in Dialectology. Prerequisite: course 209.

Mr. Robe

Meets two hours weekly. Problems in the analysis and description of the contemporary language. Directed toward independent research.


Mr. Johnson

262A. Lyric Poetry. Meets two hours weekly. Prerequisite: course 222.

The Staff

262B. Epic Poetry. Meets two hours weekly. Prerequisite: course 222.

The Staff

262C. Prose Writers. Meets two hours weekly. Prerequisite: course 223.

The Staff


Mr. Johnson

264A. Poetry. Meets two hours weekly. Prerequisite: course 224.

Mr. Johnson, Mr. Rodríguez-Cepeda

264B. The "Comedia." Meets two hours weekly. Prerequisite: course 225.

Mr. Johnson, Mr. Rodríguez-Cepeda


Mr. Johnson, Mr. Rodríguez-Cepeda

264D. Don Quijote. Meets two hours weekly. Prerequisite: course 227.

Mr. Johnson, Mr. Rodríguez-Cepeda

270A-270B. Studies in 18th and 19th Century Spanish Literature.

Mr. Johnson

270A. Poetry, Drama and Prose. Meets two hours weekly. Prerequisite: course 230.

Mr. Benítez

270B. The Novel Meets two hours weekly. Prerequisite: course 231.

Mr. Benítez, Mr. Smith


Mr. Barcia

272A. The Novel. Meets two hours weekly. Prerequisite: course 232 or 235.

Mr. Barcia

272B. The Theater. Meets two hours weekly. Prerequisite: course 233.

Mr. Barcia

NOTE: For key to symbols, see page 74
272C. Poetry. Meets two hours weekly. Prerequisite: course 234. Mr. Barcia
272D. The Essay. Meets two hours weekly. Prerequisite: course 235. Mr. Barcia
277. Studies in Colonial Spanish American Literature. Meets two hours weekly. Prerequisite: course 237. Mr. Barcia
278. Studies in 19th Century Spanish American Literature. Meets two hours weekly. Prerequisite: course 239. The Staff
280A-280D. Studies in Contemporary Spanish American Literature.
280A. Modernist Poetry. Meets two hours weekly. Prerequisite: course 240. Mr. Luzuriaga
280B. Post-Modernist Poetry. Meets two hours weekly. Prerequisite: course 243. The Staff
280C. Novel and Short Story. Meets two hours weekly. Prerequisite: course 244. Mr. Reeve
280D. The Essay. Meets two hours weekly. Prerequisite: course 245. Mr. Skirius
M286A-M286B-M286C. Studies in Hispanic Folk Literature. (Same as Folklore M286A-M286B-M286C.)
286A. The Romancerio. Meets two hours weekly. Prerequisite: course 222. The Staff
286B. Narrative and Drama. Meets two hours weekly. Prerequisite: course 239 or M249. Mrs. Arora, Mr. Robe
286C. Ballad, Poetry and Speech. Meets two hours weekly. Prerequisite: course M249. Mrs. Arora, Mr. Robe

Professional Courses
310. The Teaching of Spanish in the Elementary School. Meets three hours weekly. Prerequisite: course 115. The Staff
370. The Teaching of Spanish in the Secondary School. Meets three times weekly. Prerequisite: course 115. The Staff
372. The Language Laboratory. (½ course) Meets three hours weekly. Preparation of materials. Equipment, techniques, and problems related to the operation of the language laboratory. Mr. Otero
495. The Teaching of Spanish in the University. Prerequisite: graduate standing in the Department. Basic concepts of modern theories of language and language acquisition which underlie modern methods of second language teaching. Methods of second language teaching: Pattern Drill; "Inductive Grammar" (de Saussure; Pucciani and Hamel; Barcia) and others. Teaching practice. Observation and discussion of selected classes. Lesson preparation and execution. Test construction. Mr. Quilici

Individual Study and Research
596. Directed Individual Study or Research. (1 to 2 courses) Prerequisite: approval of graduate adviser and of Chairman of the Department. Study or research in areas or on subjects not offered as regular courses. Work evaluated on letter grade basis. No more than two courses may count toward the M.A. degree or the Ph.D. degree. Graded satisfactory/unsatisfactory. May be taken only once for each degree examination and only in the quarter that comprehensive or qualifying examinations are to be taken. The Staff (F,W,Sp)

597. Preparation for Graduate Examinations. (1 to 2 courses) Prerequisite: official approval of candidacy by the department, and approval of graduate adviser. Individual preparation for the comprehensive examination for the M.A. degree or the qualifying examination for the Ph.D. degree. Graded satisfactory/unsatisfactory. May be taken only once for each degree examination and only in the quarter that comprehensive or qualifying examinations are to be taken. The Staff (F,W,Sp)

598. Research for M.A. Thesis. (1 to 2 courses) Prerequisite: consent of the guidance committee. Research in preparation of the master's thesis. Graded satisfactory/unsatisfactory. The Staff (F,W,Sp)
599. Research for Ph.D. Dissertation. (1 to 2 courses) Prerequisite: restricted to those who have passed the qualifying examinations for the doctor's degree. Research for and preparation of the Ph.D. dissertation. Graded satisfactory/unsatisfactory. The Staff (F,W,Sp)

Portuguese
Preparation for the Major
Courses 3.25, M42 and M44, or their equivalent.
The Major in Portuguese
Thirteen upper division courses distributed as follows: Seven required courses: 100, 103, M118, 120A, 120B, 121A, 121B. The remaining six courses may consist of six advanced courses in Portuguese or electives in Portuguese plus two courses supportive of the student's program and approved by the department in history, philosophy, linguistics, or another language or literature. General College Regulation. No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition. Requirement for Teaching Credentials. Consult the UCLA ANNOUNCEMENT OF GRADUATE SCHOOL OF EDUCATION.
The Master's Degree in Luso-Brazilian Language and Literatures
General Requirements. See the Graduate Division. The Department favors the Comprehensive Examination Plan, but, with departmental approval, the Thesis Plan may be followed. See Thesis and Comprehensive Examination Plan. Departmental Requirements - Comprehensive Examination Plan. (1) Foreign Language Requirement: a reading knowledge of one other foreign language approved by the graduate adviser. Spanish in African, Asian, or Latin America. This requirement must be met at least one quarter before the awarding of the degree. (2) Course Requirements: Nine upper division and graduate level courses of which a minimum of six will be graduate courses in the 200 series, including one seminar; two graduate courses in closely related fields may be taken with the approval of the graduate adviser; a maximum of three upper division courses, excluding those required or elective courses in the preparation of the major, may be taken; (3) The examination will be divided into three major parts. In the first, the student will be expected to show a general knowledge of the history and structure of the Portuguese language. In the second and third parts, the student will be expected to show a thorough acquaintance with the authors, works, and movements of the Brazilian literature. Reading lists which will constitute the basis for the second and third examinations will be available to the student. Only those students who pass these examinations with distinction will be encouraged to proceed to the candidacy for the Ph.D.
The Departmental Requirements - Thesis Plan. (1) Guidance Committee: the preparation and examination of each candidate will be the responsibility of a guidance committee composed of three members. The chairman of the committee will be the instructor under whom the candidate proposes to write his thesis. The other two members will be appointed by the chairman of the Department and the graduate adviser. The chairman of the committee shall be appointed to represent three different fields of interest within the Department. No such committee shall be appointed before the candidate has completed one full quarter of work in graduate standing, including no less than two courses in the Department, of which at least one must be in the 200 series. (2) Foreign Language Requirement: see Comprehensive Examination Plan. (3) Course Requirements: same as for the Comprehensive Examination Plan, except that the student will be required to enroll in Portuguese 598, Research on Master's Thesis, which will count as one of the nine required courses. (4) Thesis and Examination: the subject and general plan of investigation for the thesis must be approved by the Department and the instructor concerned. Before a guidance committee can be appointed. After completion of the thesis, the candidate must pass a three-hour oral examination testing his knowledge of the field of his thesis and his general competence. A reading list which will constitute the basis for passing this examination will be available to the student. Only those students who pass these examinations with distinction will be encouraged to proceed to candidacy for the Ph.D.

Ph.D. Degree in Hispanic Languages and Literatures
General Requirements. See the Graduate Division.

Lower Division Courses
1. Elementary Portuguese. Meets five hours weekly. Laboratory one hour. The Staff
2. Elementary Portuguese. Meets five hours weekly; laboratory one hour. Prerequisite: course 1 or equivalent. The Staff
3. Intermediate Portuguese. Meets five hours weekly; laboratory one hour. Prerequisite: course 2 or equivalent. The Staff

8A-88. Portuguese Conversation. (½ course each) Meets six discussion hours weekly. Prerequisite: open to students who have completed Portuguese 3 with Grade B or better. The Staff
25. Advanced Portuguese. Meets four hours weekly. Prerequisite: course 3 or equivalent. The Staff
M42. Civilization of Spain and Portugal. (Same as Spanish M42.) 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. Required for the major.
Mr. Cruz-Saldivar

M44. Civilization of Spanish America and Brazil. (Same as Spanish M44.) 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. Required for the major.
Mr. Reeve, Mr. Skirius

Upper Division Courses
100. Phonology and Pronunciation. Meets four hours weekly, including one hour in laboratory. Analysis of the phonetic and phonemic systems of Portuguese with special emphasis on the correlation between the phonemic and graphemic systems. Exercises and drills directed toward individual needs. Mr. Quilici
104A, 104B. Portuguese Conversation. (½ course each) Meets six discussion hours weekly. Prerequisite: open to students who have completed Portuguese 3 with Grade B or better. The Staff
101A. Advanced Reading and Conversation. Meets three hours weekly. Reading and discussion of writings by modern Brazilian and Portuguese authors. Mr. Hulet
101B. Advanced Composition and Style. Meets three hours weekly. Correction of student's composition and analysis of basic stylistic elements. Mr. Hulet

102A-102B. Intensive Portuguese. Prerequisite: advanced foreign language experience (other than Portuguese) or consent of the instructor. An intensive course stressing both speaking and reading skills designed to cover the equivalent of four quarters of the traditional pattern, to meet the peculiar needs of advanced (upper division and graduate) students who are specializing primarily in foreign languages, linguistics, comparative or roman literature. The Staff
103. Syntax. Meets four hours weekly. A review of the patterns of the Portuguese language: the verb system, syntax of preposition, word order and word distribution. Mr. Dias, Mr. Quilici
111A. History of the Portuguese and Spanish Languages. (Same as Spanish M111A.) Meets four hours weekly. Prerequisite: Portuguese 100. Major
features of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times. Contributions of other languages to the formation of Portuguese and Spanish. Mr. Otero, Mr. Quicoli, Mr. Smith.

120A. Survey of Portuguese Literature. Meets four hours weekly. First half of an introduction to the principal movements, authors, and works of Portuguese Literature. Mr. Dias.

120B. Survey of Portuguese Literature. Meets four hours weekly. Second half of an introduction to the principal movements, authors, and works of Portuguese Literature. Mr. Dias.

121A. Survey of Brazilian Literature. Meets four hours weekly. First half of an introduction to the principal movements, authors and works of Brazilian Literature. Mr. Dias.

121B. Survey of Brazilian Literature. Meets four hours weekly. Second half of an introduction to the principal movements, authors, and works of Brazilian Literature. Mr. Hulet.

124. Medieval Portuguese Literature. The main genres of Medieval Portuguese and Galician literature with emphasis on at least one representative work for each. Mr. Dias.

126. Renaissance and Baroque Portuguese Literature. The main genres of Renaissance and Baroque literature with emphasis on at least one representative work for each. Mr. Dias.

127. Colonial Brazilian Literature. A study of the most important authors and literary currents 1530-1830. Mr. Hulet.

128. 18th and 19th Century Portuguese Literature. The main manifestations of thought and literature from 1700 to 1900 with emphasis on representative works. Mr. Dias.

129. Romanticism in Brazil. A study of representative trends and authors. Mr. Hulet.

135. Naturalism, Realism and Parnasianism in Brazil. A study of representative trends and authors. Mr. Hulet.

136. Contemporary Portuguese Literature. A study of representative trends and authors. Mr. Dias.

137. Contemporary Brazilian Literature. A study of representative trends and authors. Mr. Hulet.

199. Special Studies. (1 to 1 course) Prerequisite: consent of adviser and instructor. A maximum of two full courses may count toward the major. The Staff.

Graduate Courses

M200. Bibliography. (Same as Spanish M200.) Meets three hours weekly. 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 Spanish M201.) Meets three hours weekly. Definition and discussion of methods of literary criticism.

Mr. Benitez, Mr. Rodriguez-Cepeda.

M203A-203B. The Development of the Portuguese and Spanish Languages. (Same as Spanish M203A-203B.) Prerequisite: course 100 and 118 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.

M204A-204B. Transformational Grammar. Prerequisite: consent of instructor; course 204A or consent of instructor is prerequisite to 204B. A transformational approach to the Portuguese language, focused especially on the syntactic component and its relations with other aspects of grammar.

Mr. Quicoli.

M206. Portuguese Linguistics. Lecture, three hours. Prerequisite: Portuguese 115 or equivalent or consent of instructor. A study of theoretical synchronous and diachronic linguistics of Portuguese.

Mr. Quicoli.

242A-242B-242C. Special Topics in Portuguese Literature.

242A. Medieval and Renaissance Literature. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Dias.

242B. 18th and 19th Century Literature. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Dias.

242C. 20th Century Literature. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Dias.

243A-243B-243C. Special Topics in Brazilian Literature.

243A. Colonial Literature. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Hulet.

243B. 19th Century Literature. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Hulet.

243C. 20th Century Literature. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Hulet.

M249. Hispanic Folk Literature. (Same as Folklore and Spanish M249.) Meets three hours weekly. An intensive study of folk literature.

Mr. Arora, Mr. Robe.

M251. Studies in Galician-Portuguese and Old Spanish. (Same as Spanish M251.) Prerequisite: course M203A-203B. Problems related to the historical development of Galician-Portuguese and Old Spanish.

Mr. Otero, Mr. Smith.

252A-252D. Special Studies in Portuguese Literature.

252A. The Novel. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Dias.

252B. The Poetry. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Dias.

252C. The Theater. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Dias.

252D. The Short Story and Essay. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Dias.

253A-253D. Special Studies in Brazilian Literature.

253A. The Novel. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Hulet.

253B. The Poetry. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Hulet.

253C. The Theater. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Hulet.

253D. The Short Story and Essay. Meets two hours weekly. Prerequisite: consent of instructor.

Mr. Hulet.


Mr. Hulet.

Individual Study and Research

596. Directed Individual Study or Research. (1 to 2 courses) Prerequisite: approval of graduate adviser and of Chairman of the Department. Study or research in areas or subjects not offered as regular courses. Work evaluated on letter grade basis. No more than two full courses may count toward the M.A. course requirement. Limited to a maximum of three full courses in any graduate program.

The Staff.

997. Preparation for Graduate Examination. (1 to 2 courses) Prerequisite: official acceptance of candidacy by the department, and approval of graduate adviser. Individual preparation for the comprehensive examination for the M.A. degree. Graded satisfactory/unsatisfactory. May be taken only once for each degree examination and only in the quarter that comprehensive or qualifying examinations are to be taken.

The Staff.


The Staff.

999. Research on Dissertation. (1 to 2 courses) Research for and preparation of the doctoral dissertation. Restricted to those who have passed the qualifying examinations for the doctor's degree. Graded S/U.

The Staff.

SPEECH

(Department Office, 232 Royce Hall)

Donald Erwin Hargis, Ph.D., Professor of Communication Studies.

Walden Woodson Phelps, Ph.D., Professor of Speech.

Harry Howell, III, Ph.D., Lecturer in Speech.

The Department of Speech is in the process of being phased out and is no longer offering degree programs. The courses listed below are offered by the faculty in service to the general instructional program of the University.

Lower Division Courses

1. Principles of Oral Communication. Prerequisite: Satisfactory theory and practice of informal public speaking, including selection of content, organization of ideas, language and delivery; practice in extemporaneous and manuscript speaking; training in critical analysis through reading and listening to contemporary speeches.

The Staff.

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.

The Staff.

Upper Division Courses

101. Introduction to Public Address. Analysis of rhetorical principles. Application to informative and persuasive speaking, to problem-solving discussion, and to the criticism of contemporary speeches. Open to upper division students who do not have credit for Speech 1 and 2. May not be counted as part of upper division major.

The Staff.


Mr. Hargis.


Mr. Howell.


The Staff.


Mr. Phelps.

112. Oral Interpretation of Literature. A study of the literary, aesthetic, and oral bases for the analysis of communication (112A) and poetry (112B).

Mr. Hargis.

137A-137B. American Public Address. Critical study of speeches by leading American orators. Relationships of speakers to issues and social movements of their day.

137A. Colonial period to 1865; 137B. 1865-1930.

Mr. Richardson.

NOTE: For key to symbols, see page 74
Graduate Courses

STATISTICS

Studies in statistics and related areas are possible in various academic departments. Detailed information may be found in the announcements of the individual departments listed below.

Anthropology

Course in statistical methods.

Architecture and Urban Planning

Quantitative methods in statistics.

Biometrics

Introductory and advanced courses in biometrics including stochastic modeling in biology. M.S. and Ph.D. degrees.

Dentistry

Elementary statistics course.

Economics

Upper division and graduate offerings in econometrics.

Education

Graduate offerings in experimental design and in measurement.

Engineering

Upper division and graduate offerings in statistics and probability.

Geography

Quantitative methods in statistics.

Management

Master of Science and Ph.D. degree programs with specialization in business statistics offered by the Quantitative Methods Division.

Mathematics

Probability and statistics available as a field in the Ph.D. program in mathematics and the applied mathematics program.

Pharmacology

Bioessay.

Political Science

Upper division course in quantitative methods.

Psychology

Course work in statistics, factor analysis, scaling.

Public Health

Introductory and advanced courses in biostatistics. A Master of Science and Ph.D. degree in biostatistics are given by the Biostatistics Division. An M.P.H. and Dr. P.H. with concentration in Biostatistics are given by the School of Public Health.

Social Welfare

Survey research statistics.

Sociology

Offerings in statistics, measurement, demography.

SUBJECT A REQUIREMENT

(Department Office, 302 Royce Hall)

Everett L. Jones, M.A., Director of Freshman English

Subject A.

Every student who does not satisfy the Subject A requirement by presenting transfer credit or by passing an acceptable examination is required to take, in the quarter immediately following his admission to the University, either English A or English 1. Placement in these courses is determined by performance on the Subject A Placement Test.

THEATER ARTS

(Department Office, 2310 Macgowan Hall)

William B. Adams, M.A., Professor of Theater Arts.
John R. Cauble, M.A., Professor of Theater Arts.
Robert F. Corrigan, M.A., Professor of Theater Arts.
Natalie D. Ward, M.F.A., Associate Professor of Theater Arts.
Arthur B. Friedman, Ph.D., Professor of Theater Arts.
Henry Goodman, Ph.D., Professor of Theater Arts.
Richard C. Hawkins, M.A., Professor of Theater Arts.
Melvin B. Hulstien, Ph.D., Professor of Theater Arts.
John H. Jones, M.A., Professor of Theater Arts.
Walter K. King, Ed.D., Professor of Theater Arts.
Frank D. LaTourette, M.Litt., Professor of Theater Arts.
Darrell E. Ross, M.A., Professor of Theater Arts.
Levon C. Stoumen, B.A., Professor of Theater Arts.
Abe V. Wollrock, Ph.D., Professor of Theater Arts.
John W. Young, M.A., Professor of Theater Arts; Chairman of the Department.

Walden P. Boyle, Ph.D., Emeritus Professor of Theater Arts.
Michael Gordon, M.F.A., Emeritus Professor of Theater Arts.
Hugh J. Gray, Ph.D., Emeritus Professor of Theater Arts.
Edward Hearn, M.A., Emeritus Professor of Theater Arts.
William W. Meliniz, Ph.D., Emeritus Professor of Theater Arts.
Samuel S. Morin, B.A., Emeritus Professor of Theater Arts.
William Froug, B.J., Associate Professor of Theater Arts.
Robert H. Hethmon, Ph.D., Associate Professor of Theater Arts.
Dan F. Mogilnicki, M.A., Associate Professor of Theater Arts.
Stephen D. Mamber, Ph.D., Associate Professor of Theater Arts.
William H. Menger, M.A., Associate Professor of Theater Arts.
William H. Muller, Ph.D., Associate Professor of Theater Arts.
Russ E. Schwartz, Ph.D., Associate Professor of Theater Arts.
Howard Saber, Ph.D., Associate Professor of Theater Arts.
William L. Jay, M.A., Professor of Theater Arts.
William T. Wheatley, Ph.D., Associate Professor of Theater Arts.

Thomas A. Heinz, Ph.D., Adjunct Associate Professor of Theater Arts.
Gary A. Gardner, B.A., Assistant Professor of Theater Arts.
Joanie T. Mc Master, M.F.A., Assistant Professor of Theater Arts.

Margaret L. Wilbur, M.F.A., Assistant Professor of Theater Arts.

John D. Boehm, M.A., Lecturer in Theater Arts.
Robert Bookman, J.D., Lecturer in Theater Arts.
Edgar L. Brook, B.A., Lecturer in Theater Arts.
Shirley M. Clarke, A.A., Lecturer in Theater Arts.
Gordon M. Gwinn, M.A., Lecturer in Theater Arts.
Lenore DeKovar, B.A., Lecturer in Theater Arts.
Anthony DeLongis, B.A., Lecturer in Theater Arts.
Teshome M. Gabriel, M.A., Lecturer in Theater Arts.
Hugh M. Grauel, M.A., Lecturer in Theater Arts.
H. Peter Guib, L.L.M., Lecturer in Theater Arts.
John Ingle, M.A., Lecturer in Theater Arts.
Robert Lee, Ph.D., Lecturer in Theater Arts.
Mark McCarthy, M.A., Lecturer in Theater Arts.
Sylvia E. Moss, B.A., Lecturer in Theater Arts.
Robert A. Nakamura, M.F.A., Lecturer in Theater Arts.
Thomas J. Ort, M.F.A., Lecturer in Theater Arts.
Jorge R. Pelayos, B.A., Lecturer in Theater Arts.
Beverly J. Robinson, M.A., Lecturer in Theater Arts.
Richard S. Rose, M.F.A., Lecturer in Theater Arts.
Frank A. Valerdi, Lecturer in Theater Arts.
George Van Buren, Lecturer in Theater Arts.
Richard Walter, M.A., Lecturer in Theater Arts.
Phillip B. Zarrilli, Ph.D., Lecturer in Theater Arts.

The Department of Theater Arts bases its work in theater, motion picture/television, and fashion on a solid foundation in the liberal arts. The purpose of the curriculum is to develop in its students a scholarly, creative and professional approach to the theater arts. The aim of the Department is to train graduates who will eventually make original contributions in the field of their work.

The student majoring in theater arts must complete the requirements of the College of Fine Arts and the requirements under one of the two majors: theater, motion picture/television.

Preparation for the Major

Theater Courses 5A-5B, 5C, 10, 20 and English 90.

Motion Picture/Television. Students electing to specialize in motion picture/television for their B.A. degrees should complete the general University and College of Fine Arts Requirements before entering the program.

The Major

Theater Courses 130A, 140A, 141A, 142A, 143A, 160A, 160B, 170, 172 (repeated four times), two units chosen from 122, 144A, 144B, 149A, 174, 190A or 190B; and 24 units of approved upper division Theater Arts electives, to bring the total to 60 upper division units. Through certain required courses listed above, all B.A. students are required to complete one quarter of residence are responsible for completing specific production assignments related to production activity of the Theater curriculum.

Motion Picture/Television. Admission to this major is not automatic. Applicants are not required to apply until just prior to achieving full status as a Junior in the University. They must obtain departmental permission 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.

No student in Motion Picture/Television may begin the major, consisting of 60 upper division units, before the Junior year, and during their Junior and Senior years they must take 138, 134, 179A (double course), and one of the following television courses: 180B, 184A, 184B, 184C, 185, plus 2 courses selected from 106A, 106B, 106C, 106D, 106E, 110A and 110B, and one upper division course chosen from the drama, history, theory, and criticism course listings in Theater Arts. It is recommended that the majority of these required courses be completed during the Junior year.

In addition to the required courses, students must take a minimum of 28 units of upper division Motion Picture/Television electives which may include advanced classes in the fields of filmmaking, writing, animation, television production.
students must consult with the Department under-
graduate counselor to plan a program. Admission to advanced courses requires consent of the instructor or senior standing. The student 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 assign-
ments covering the full range of their projects. In addition, the Department of Theater Arts 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.

Teaching Credentials
Students may earn credentials for teaching theater arts. Experience in other subjects in California ele-
mentary and secondary schools. Some majors are more advantageous than others for professional preparation. Completion of the Teacher Credential Program in the Teacher Education Laboratory is required. Consult with the Graduate School of Education, 201 Moore Hall, for information.

Admission to Graduate Status
Most areas in the Department of Theater Arts accept students into the Graduate Program in the Fall Quarter only. Consult the Department for further information.

In addition to meeting the general requirements of the Graduate Division, the student will usually be expected to have completed his or her bachelor's degree in theater arts or its equivalent. Students whose theater arts preparation is deficient, as deter-
mined by the admissions committee, will be required to take work additional to the degree program to make up such deficiencies.

The applicant who has done his or her preparatory work elsewhere must provide the Department with evidence of the degree requirements. The student's program will be determined in consultation with an adviser and is subject to the approval of the Critical Studies Committee. The Comprehensive Examination will reflect course work, student's breadth of knowledge of film and/or television. Students will be provided with guidelines and a suggested bibliography and filmography by the Department. Part I of the Comprehensive Examination, testing the student's breadth of knowledge, may be taken earlier than the end of the third quarter of residence or its equivalent and no later than the end of the fifth quarter of residence or its equivalent.

Concurrently with their efforts to obtain a broad understanding of motion and television industries, stu-
dents will develop an area of specialization requiring intensive individual work. Part II of the Com-
prehensive Examination consists of the writing of a scholarly essay of some fifty pages under the guidance on this specialized topic. The essay must be completed and approved by the Critical Studies Committee no later than two quarters after the stu-
dent has completed Part I of the Comprehensive Examination. Upon completion of both Parts I and II of the Comprehensive Examination, the Critical Studies Committee will render one of the following judgments: 1. Pass with Distinction; 2. Pass; 3. Fail. If one or more sections of Part I of the examination are not passed, the student may repeat such parts one more time in the following quarter. The maximum residency allowed for this program is seven quarters.

Master of Fine Arts Degree
The Department offers a two-year program leading toward completion of a Master of Fine Arts degree in theater, motion pictures or television. (See below for requirements by subject area.) In addition to formal courses the student must complete certain projects in writing, direction, acting, design or technical direction.

For admission to the program a student must have completed the UCLA undergraduate program in theater arts in the area of his proposed specialization, or its equivalent. Candidates for the M.F.A. programs in theater or motion picture/television must present an undergraduate degree. Students may be admitted to the program with deficiencies when an undergraduate degree has been completed in some field other than theater arts, or when an undergraduate degree in theater arts has had different requirements. In such cases the student can anticipate extra time to remove the deficiencies.

The Theater Department of Theater Arts follows the Comprehensive Plan for the M.F.A. in theater. The M.F.A. projects may be in writing, direction, scenic design, costume design, lighting, puppetry or management, and a candidate must arrange with his adviser a program of a minimum of 18 courses which involve him in the successful completion of a research series. Motion Picture/Television. The M.F.A. in motion pic-
tures or television can be taken in animation, film-
making, television production or writing. There is a

NOTE: For key to symbols, see page 74
critical analysis of their roles in contemporary culture, leading to an appreciation and understanding of the theater arts. A nontechnical presentation is for the general student. To be taken on a Pass/Not Pass basis only.

10A. Selected Topics on the History of the European Theater. Lecture, three hours. Prerequisite: course 5A or the equivalent and/or consent of the instructor. An investigation in depth of a selected aspect of theater history from the Greeks through the Renaissance. May be repeated for a maximum of 12 units of credit. Mr. Mueller

10B. Selected Topics on the History of the European Theater. Lecture, three hours. Prerequisite: course 5B or the equivalent and/or consent of the instructor. An intensive study in depth of a selected area of study in theater history from the Baroque to the present. May be repeated for a maximum of 12 units of credit. Mr. Goodman

10D. History of the European Theater. Lecture, three hours. Prerequisite: consent of the instructor. A survey of the development of the theater from the Greeks to the present. May not be taken for credit by students who have had more than one course from the 5A, 5B, and 5C series.

10E. Theater of the Non-European World. Lectures and discussions of principle and procedures of theater developed and performed by Black artists in America from Slavery to 1930. Ms. Robinson

10B. Black People’s Theater in America, Slavery to 1930. Lecture, three hours. An exploration of all extant materials on the history and literature of the theater developed and performed by Black artists in America from Slavery to 1930. Ms. Robinson

10B. Black People’s Theater in America, 1930 to the Present. Lecture, three hours. An exploration of all extant materials on the history and literature of the theater as developed and performed by Black artists in America from 1930 to the present. Ms. Robinson

13A. History of the American Theater. Lecture, three hours. The history of the American theater from the Revolutionary War to WWI. Mr. Helstien

140A. Fundamentals of Playwriting I. Lecture, three hours. Required of theater majors. Course designed to stimulate the student’s critical and creative faculties through the preparation of original material for the theater. Guidance in the completion of a one-act play. Mr. Gardiner

140B. Fundamentals of Playwriting II. Lecture, three hours plus conference. Prerequisites: course 130A and consent of writing staff. Study in original material and research and development. The course is designed to give further insight into the critical and creating aspects of the short and full-length play and guidance in the completion of the one act and full-length play. May be repeated for a maximum of twelve units credit. Mr. Gordon

132. Manuscript Evaluation for the Theater. Lecture, three hours. Prerequisite: course 130A and consent of the instructor. May be repeated for a maximum of eight units. Prerequisites and principles in the evaluation of manuscripts for theater. Mr. Gordon

136. Intermediate Acting for the Stage. Lecture/laboratory, four hours. Prerequisites: course 20, upper division standing and consent of instructor. Designed for students as an evaluation course for entrance into the continuum course in acting. Not open for credit to students who have taken 120C. Ms. Robinson

137A-137B-137C. Continuum Study in Acting for the Stage. Lecture/laboratory, four hours. Prerequisite: consent of instructor. Study of complex problems in characterization and performance in advanced and complex acting styles. No student may receive more than 12 units of credit for any combination of 120 and 137A-137B-121C and 137A-137B-137C. The total number of units from both groups together not to exceed a maximum of 16 units. Ms. Robinson

138. Special Problems in Performance Techniques. Lecture/laboratory, four hours. Prerequisite: consent of instructor. Study of medium problems in voice, movement and acting. May be repeated for a maximum of 12 units. Not open for credit to students who have taken 121D-121E-121F.

140A. Scenic Techniques for the Stage. Lecture, three hours; laboratory, six hours. Prerequisites: course 10 and consent of instructor. Required of theater majors. An intensive study of scenic materials, construction techniques, production organization and the rigging of scenery. (Courses 140A, 140B, and 142A may be taken in any sequence, but not concurrently). Required of theater majors. An intensive study of theater lighting with emphasis on the relationship of lighting instruments and control equipment to lighting design. Mr. Ward

141B. Advanced Lighting for the Stage. Lecture/laboratory, four hours. Prerequisite: course 141A. Advanced study of lighting as an art, with emphasis given to design concepts. The interpretation of a script or score through the control of light and color in relation to actor and audience. Mr. Crabs, Mr. Ward

142A. Theater Costuming Techniques. Lecture, three hours; laboratory, six hours. Prerequisites: course 10 and consent of instructor. (Courses 142A, 140A, and 141A may be taken in any sequence, but not concurrently). Required of theater majors. The study of costumes analysis and the interpretation of theatrical costume design through the use of patterns, fabrics, and related costume materials. Ms. Moss

142B. Advanced Costuming for the Stage. Lecture, three hours; laboratory, four hours. Prerequisite: course 142A or consent of the instructor. Special problems in the procuring, designing, construction and management of costumes used in theatrical productions. Ms. Moss

143A. Scenic Design for the Theater. (½ course) Lecture, two hours. Prerequisites: course 10 and three hours of the equivalent and/or consent of the instructor. Basic principles of design as applied to the interpretation and presentation of the visual aspects of dramaturgy. Study of styles, techniques and methods of the theater arts. The translation of ideas into visual forms. Mr. Corrigan, Mr. Crabs

143B. Advanced Scenic Design for the Theater. Lecture, two hours; laboratory, four hours. Prerequisite: course 143A and consent of the instructor. Further study of the design of scenery for the theater, and translation of the design into actual visual form. Solving design problems for the complicated play. Consideration of experimental ideas, and the investigation of new materials. Mr. Corrigan

144A. Theater Sound Techniques. (½ course) Lecture, two hours; laboratory, two hours. Prerequisite: course 10 or approved equivalent. A study of the equipment and techniques utilized in the recording and reproduction of sound for the theater. Mr. Ward

144B. Advanced Theater Sound. Lecture, three hours; laboratory, four hours. Prerequisite: course 144A or consent of the instructor. A detailed study of theater sound with emphasis on the transcription and execution of theater sound tracks, recording techniques, and acoustic reinforcement. Mr. Ward

145. Costume Design for Theater. Lecture/laboratory, four hours. Prerequisite: consent of the instructor. Design of costumes for theatrical presentation. The study of the use of silhouette, fabrics, color, and decoration as related to theatrical characterization.

146B. Scene Painting Techniques. (½ course) Lecture/laboratory, three hours. Prerequisite: consent of the instructor. The study of scenic painting techniques and materials, and their relation to the realization of color design and elevations. Mr. Corrigan

148. Special Courses in Design and Technical Theater. Lecture, three hours. Prerequisite: consent of the instructor. Group study of selected subjects in design and technical theater. May be repeated for a maximum of 12 units. Not open for credit to students who have taken 121D-121E-121F.

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 set elevations. Mr. Ward

149B. Advanced Drafting for Theater Arts. Lecture/laboratory, four hours. Prerequisite: course 149A or consent of instructor. An advanced course
in the technical sketching and drafting of working drawings essential in the development of the design of sets and properties for theater, television and motion picture productions.

Mr. Corrigan

160A. Fundamentals of Play Direction. Lecture/laboratory, four hours. Required of theater majors. Basic theories of play direction and their application through the preparation of scenes under rehearsal conditions. Concurrent scheduling with course 198E.

Mr. Hestien

160B. Intermediate Play Direction. Lecture/discussion, two hours; laboratory, eight hours. Prerequisite: course 160A and consent of the instructor. 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. Major topics will be drawn from published sources. Not open for credit to students who have had two units of credit from 160B.

161. Advanced Play Direction. Lecture, four hours; laboratory, six hours. Prerequisites: course 160A and consent of the instructor. Special problems in the direction of original one-act plays under production conditions. May be repeated for a maximum of eight units credit, with consent of the instructor.

170. Theater Laboratory. Lecture, four hours; laboratory, six hours. Prerequisite: consent of the instructor. This course is open only to majors in the Theater Department. Laboratory in theater production under supervision. The translation of ideas and concepts into the dramatic form.

171A. Advanced Theater Laboratory. (1 or 2 courses) Hours to be arranged. Prerequisite: consent of the instructor. May be taken for a maximum of one course. Creative participation as an actor or stage manager in the public presentation of departmental productions.

171B. Advanced Theater Laboratory. (1 or 2 courses) Hours to be arranged. Prerequisite: consent of the instructor. May be taken for a maximum of one course. Creative participation in the realization of production elements related to the public presentation of department productions.

172. Technical Theater Laboratory. (1 course) Hours to be arranged. Prerequisite: consent of the instructor. Required of theater majors. A laboratory in various aspects of theater production. The student must repeat the course for a total of 8 units. No assignment may be repeated more than once. Maximum 8 units. Concurrent scheduling with TA 272ABC and TA 472.


190A. The Role of the Producer in the Professional Theater. (1 course) Lecture, two hours. A study of the structure governing the economic and artistic decision-making processes in the professional theater of America.

Mr. Cauble

190B. The Role of Management in the Educational and Community Theater. (1 course) Lecture, two hours. An analysis of the economic criteria in the administration of educational and community theater.

Mr. Cauble

191. The Touring Company. (2 or 3 courses) Lecture, 20 hours; laboratory, 22 hours. Prerequisite: consent of instructor. Rehearsal and technical preparation for touring, and the performance of that work on tour.

MOTION PICTURE/TELEVISION AREAS

150A. History of the American Motion Picture. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of instructor. 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 for credit (maximum 2 courses)

150B. History of the European Motion Picture. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of instructor. An 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 for credit (maximum 2 courses) with departmental consent. *Determined on basis of change in course content.

150C. History of African, Asian and Latin American Film. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. A critical, historical, aesthetic and social study together with an exploration of the ethnic significance of Asian, African, Latin American and Mexican films.

150D. The Development of Film in Europe and the United States: From WWI through the Depression. Lecture and screening, eight hours; discussion, one hour. Prerequisite: consent of instructor. 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. (Part of the course will be given Jointly, that can be taken separately.) Not open for credit to students who have taken 110B in Winter Quarter, 1975.

150E. The Development of Film in Europe and the United States: From WWI to the Present. Lecture and screening, eight hours; discussion, one hour. Prerequisite: consent of instructor. An interdisciplinary and comparative approach to the development of film in Europe and the United States from the end of the 30's through 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. (Part 2 of the two quarter sequence, that can be taken jointly or separately.) Not open for credit to students who have taken 198C in Spring Quarter, 1975.

107. Experimental Film. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. A study and analysis of unconventional developments in the motion picture.

108. History of Documentary Film. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. A study of the documentary approach in the motion picture. The development of critical standards, and an examination of the techniques of teaching and persuasion used in in documentary, educational, and propaganda films.

110A. History of Broadcasting. Lecture/viewing, six hours; discussion, one hour. Prerequisite: consent of instructor. Critical survey of broadcasting here and abroad. Consideration of the social relevance of developments in broadcasting. Not open for credit if student has credit for 1100.

Ms. Schwartz

110B. Problems and Issues in Broadcast Media. Lecture, four hours; discussion, two hours; laboratory, to be arranged. Prerequisite: consent of instructor. An analysis of the legal, ethical, and psychological implications of the mass media to the public and their role in society. Open for credit if student has credit for 1100.

Ms. Schwartz

111. Film Distribution and Exhibition. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. History and theory of organization of theatrical and nontheatrical distribution systems, with particular emphasis on current trends and analysis of their interrelationships with production practices.

112. Film and Social Change. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. The development of documentary and dramatic films in relation to and as a force in social development.

113. Film Authors. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. May be repeated for credit (maximum 2 courses) with departmental consent. *Determined on basis of change in course content. A study in depth of a specific film author (director or writer).

114. Film Genres. Lecture and screening, six hours; discussion, one hour. Prerequisite: Consent of the instructor. May be repeated for credit (maximum 2 courses) with departmental consent. *Determined on basis of change in course content. Study of a specific film genre, e.g., the Western, the gangster cycle, the musical, the silent epic, the comedy.

115. Producers and Their Films. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. A consideration of the individual or corporate producers as they have affected the art and industry of the motion picture. Course content will vary, considering the work of a studio such as Paramount, Metro-Goldwyn-Mayer, Warner Brothers, etc. or an individual such as Samuel Goldwyn, Stanley Kramer.

116. Criticism. Lecture, four hours; laboratory, to be arranged. May be repeated for credit (maximum 2 courses) with departmental consent. *Determined on basis of change in course content. Study of and practice in criticism of the theater, motion pictures and television.

126A. Advanced Acting for Television and Motion Pictures. Laboratory, six hours. Prerequisite: course 20 or consent of the instructor. Projects in acting for television and motion pictures. Videotape recording of selected acting exercises and readings. May be repeated for credit for a maximum of 12 units.

Mr. Friedman

126B. Broadcast Speech. Laboratory, six hours. Field trips as required. Prerequisite: consent of instructor. Intensive study of effective speech for the performer in television and radio. Audio and television recordings of selected individual and group readings. Playbacks, analysis and criticism. May be repeated for credit for a maximum of 12 units.

Mr. Friedman, Mr. Kingston

126C. Sportscasting. Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. Intensive study of Sportscasting: laboratory exercises emphasizing analysis of sportscasting, videotaping and playback of straight sportscasts, play by play, color, interviews, commentary and editorials. Students required to write original material for all exercises. Extensive training re hand-held field equipment; use of the remote truck. Field exercises. Students rotate in production positions. May be repeated for a maximum of 12 units.

Mr. Friedman


Mr. Stoumen

131. Non-Theatrical Motion Picture/Television Writing. Discussion, three hours. Prerequisites: students must have consent of instructor. Consent of the instructor is required for non-theatrical motion picture or television scripts. May be repeated for a maximum of three courses.

Mr. Adams

134. Motion Picture/Television Writing. Discussion, three hours. Prerequisites: students must have consent of instructor. Introduces students to problems in motion picture/television writing.

NOTE: For key to symbols, see page 74
134. 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 offered each quarter. Emphasis on motion picture/television material to be developed. May be repeated for a maximum of 24 units. No student may receive more than 24 units of credit for any combination of 135, 135A, 135B, 135C.

150A. Basic Motion Picture/Television Photography. Lecture, three hours; laboratory, four hours. Prerequisites: course 179A, restricted to Motion Picture/Television majors. Introduction to image control in film photography through exposure, lighting, and filtration. Course includes supervised projects in photography to complement material covered in the lecture. Mr. Valert

150B. Advanced Motion Picture/Television Photography. Lecture, three hours; discussion, one hour; laboratory, eight hours. Prerequisites: course 150A, and consent of instructor; restricted to Motion Picture/Television majors. Supervised exercises in studio and location film photography to develop skill in lighting and management of the photographic process. A course in motion picture and television. May be repeated for a maximum of 12 units. Mr. Valert

151. Design for Motion Pictures and Television. Lecture, three hours; laboratory to be arranged. Prerequisites: course 134 and consent of instructor; restricted to Motion Picture/Television majors. The techniques of art direction. If the course is repeated, the student is required to design and complete a short film. May be repeated for a maximum of 12 units.

152A. Motion Picture/Television Sound Recording. Lecture, three hours; laboratory, to be arranged. Prerequisites: course 179A and one course chosen from 154A or C; restricted to Motion Picture/Television majors. Introduction to principles and techniques of motion picture and television sound recording, including supervised exercises. Mr. Adams

152B. Motion Picture/Television Sound Recording. Lecture, three hours; laboratory, five hours. Prerequisites: course 179A and one course chosen from 154A or C; restricted to Motion Picture/Television majors. Introduction to principles and techniques of motion picture and television sound recording, including supervised practical exercises. May be repeated for a maximum of 12 units. Mr. Adams

153C. Color Cinematography. Lecture, three hours. Prerequisite: consent of instructor. History and theory of color cinematography with emphasis on the principles and techniques used in present-day methods in motion picture and television production. A comparative study of additive and subtractive systems as employed by technicians. Mr. Adams

154A. Motion Picture/Television Editing. Lecture, three hours; laboratory, to be arranged. Prerequisites: course 179A, restricted to Motion Picture/Television majors. A study of the role of editing the fictional and non-fictional production with emphasis on the finishing stages including title preparation, the use of optical effects and blowups, preparation for the supervision of the mix, and the cutting of originals for single strand and A & B printing. Mr. Brokaw

163. Direction of Actors for Motion Pictures/Television. Laboratory, six hours. Prerequisites: course 179A and consent of the instructor. Exercises in analysis of script and character for the purpose of directing actors in motion picture and television productions. Emphasis on eliciting the best possible performance from the actor. May be repeated for a maximum of 12 units credit.

164. Direction for Motion Pictures. Laboratory, to be arranged. Prerequisites: course 179A and consent of the instructor. A study of the problems faced by a motion picture director and various approaches to their solution. May be repeated for a maximum of 12 units credit.

165. Direction for Television. Laboratory, six hours. Prerequisites: courses 134, 179A, 185 and 186A. Instruction and supervised exercises in television direction with emphasis on the creative use of cameras, sound, composition, and communication with those in front of and behind the camera. May be repeated for credit; maximum three courses.

179A. Film Project 1. (2 courses) Hours, to be arranged. Prerequisites: junior standing and completion of requirements of the University and the College of Fine Arts. Restricted to the Motion Picture/Television majors. The completion of a film, including its writing, production, and editing. Lecture and laboratory are required in the Motion Picture/Television major. Production Faculty

179B. Motion Picture Production. (1, 2 or 3 courses) Hours to be arranged. Prerequisites: course 179A and consent of Production Faculty. The completion of a motion picture production, including its writing, production, and editing. May be repeated for a maximum of 16 units. Production Faculty

179D. Motion Picture Production. Hours, to be arranged. Prerequisites: courses 179A and 197A and consent of instructor. Production of a group film or videotape production with three or more students collectively responsible for its conception, writing, directing, editing. May be repeated for the major. Production Faculty

179E. Motion Picture/Television Production. (1 or 2 courses) Hours to be arranged. Prerequisites: course 179A and consent of instructor. Completion of a group film or videotape production with three or more students collectively responsible for its conception, writing, directing. May be repeated for a maximum of 12 units credit.

180A-180B-180C. Workshop in Broadcast News and Documentary. Discussion, three hours; laboratory, five hours. Prerequisites: consent of the instructor. Instruction and supervised exercises in writing, reporting, editing, and producing radio and television news, public affairs, and documentary programs. Mr. LaTourette

181A. Animation Design in Theater Arts. Lecture, three hours; laboratory, three hours. Prerequisites: consent of the instructor. History and use of speech, speech on film, and some basic concepts of design for effective communication on film. Mr. McLaughlin

181B. Writing for Animation. (1 or 2 courses) Lecture, six hours; laboratory to be arranged. Prerequisites: course 181A, consent of the instructor and a storyboard at the first class meeting. Research, adaptation, and writing for the script and narrative functions of animated film. May be repeated for credit; maximum four courses (16 units). Mr. McLaughlin

181C. Animation Workshop. (1 or 2 courses) Lecture, six hours; laboratory to be arranged. Prerequisites: consent of the instructor and a storyboard at the first class meeting. Organization and integration of the various creative arts used in animation to form a complete study of a selected topic. May be repeated for credit; maximum four courses (16 units). Mr. McLaughlin

184A-184B-184C. Community Television Programming and Management. Laboratory, eight hours. Prerequisites: consent of the instructor. Supervised operation and programming of a community television station. Credit for participation in semi-weekly campus broadcasts. Mr. LaTourette

185. Television Production. Laboratory, eight hours. Prerequisite: consent of instructor. Instruction and supervised exercises in the basic techniques of using cameras, lighting, and sound in the production of television programs.

186A-186B-186C. Television Laboratory. (1 or 2 courses) Laboratory, to be arranged. Prerequisites: one course chosen from 180A, 184A, 184B, 184C or 185 and consent of instructor. The conception, production, and production of an original television program.

187A-187B-187C. Remote Television Broadcasting. (1 course each) Laboratory, three hours plus additional hours to be arranged. Prerequisite: one course chosen from 180A, 184A, 184B, 184C or 185 and consent of instructor. Instruction and supervised exercises in the planning and production of remote on-location television programs. Mr. Trachinger

188. The Aesthetics of Visual Communication. Lecture, three hours. Prerequisite: advanced standing and consent of instructor. An introduction to the study of communication in art, with an emphasis on the problem of aesthetic perception and its proper role in the experience of contemporary visual arts.

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. Not open for credit to students who have taken 980D in Fall Quarter, 1975.

192. Motion Picture and Television Internship. (1 or 2 courses) Laboratory, ten or 20 hours weekly; field experience. Prerequisite: consent of instructor. An internship at various film and television studios accruing the creative contribution, the organization, and the work of professionals in their various specialties. May be repeated once for a maximum of 12 units.

193A. Film Curatorship. Lecture, two hours; discussion, two hours; laboratory, four hours. Prerequisite: completion of motion picture techniques and principles and techniques of film curatorship and research, including but not limited to acquisitions, cataloguing, 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. Not open for credit to those who have taken course 194A.

193B. Television Curatorship. Lecture, two hours; discussion, two hours; laboratory, four hours. Prerequisites: consent of the instructor. Study of the principles and techniques of television curatorship and research, including but not limited to acquisitions, cataloguing, 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. Not open for credit to those who have taken 194B.

195. Independent Production of Feature Films. Lecture, three hours. Prerequisite: course 189 and consent of instructor. Survey of financial and business aspects involved in packaging, distributing and exhibiting motion pictures today from the various perspectives of prominent industry leaders. May be repeated for credit (maximum 2 courses) with department consent.*

*Determined on basis of change in instructors.
SPECIAL STUDIES FOR ALL SPECIALIZATIONS

199. Special Studies in Theater Arts. (4 to 2 courses) Hours to be arranged. Prerequisites: senior standing, 3.0 GPA in major and consent of the instructor. May be repeated for a total of two courses.

Graduate Courses

Certain graduate courses concerned with individual student projects may be repeated for credit upon recommendation of the departmental graduate adviser. Not open to undergraduate students. See College of Fine Arts, Unit Requirements.

200. Bibliography and Methods of Research in Theater Arts.

Section 1. Theater - Mr. Hethmon
Section 2. Motion Pictures - Mr. Suber
Section 3. Television-Radio - Ms. Schwartz

201. Seminar in Modern Production Theories. Lecture, four hours. Selected topics from European and American theater studies - Mr. Hethmon

202A. Seminar in Classical Theater. Discussion, three hours. Prerequisite: graduate standing and consent of the instructor. Studies in the development of theatrical production and dramatic form in the Greek, Hellenistic, and Roman periods - Mr. Mueller

202B. Seminar in Medieval Theater. Discussion, three hours. Prerequisite: graduate standing and consent of the instructor. Studies of the theatrical production and dramatic form in the Middle Ages - Mr. Hethmon

202C. Seminar in Renaissance and Baroque Theater. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Studies in theater architecture, theatrical production, and dramatic form in English and Continental theater from 1485 to the early 18th century - Mr. Goodman

202D. Seminar in 18th and 19th Century Theater. Discussion, three hours. Prerequisite: graduate standing and consent of the instructor. Studies in theater architecture, theatrical production, and dramatic form in English and Continental theater from 1700 to 1870 - Mr. Goodman

202E. Seminar on the Modern Consciousness in Theater. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the prototypes of modern experience as encountered in the work of Ibsen and Strindberg - Mr. Goodman

202F. Seminar in Naturalism and Expressionism. Discussion, three hours. Prerequisite: graduate standing and consent of the instructor. Study of the modern theater's response to scientific thought and industrialism - Mr. Goodman

202G. Seminar in Symbolism. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Adaptations of the religious impulse in such artists as Maeterlinck, Yeats, Meyerhold, Appia, Craig, Andreyev, Claudel, and Eliot - Mr. Goodman

202H. Seminar in Surrealism. Discussion, three hours. Prerequisite: graduate standing and consent of the instructor. Study of the development from Rimbaud to the present of the basic concepts of Surrealism as they relate to the theater. The seminar will deal with certain major writers such as Apollinaire, Jarry, and Cocteau, but will also take up the theatrical techniques which the movement has fostered - Mr. Mueller

202J. Seminar on Theater and Social Order. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the concept of order as it underlies theater which attempts to correct, restore, explain, or argue with the ethical or metaphysical condition of the period. The work of such playwrights as Shaw, Brecht, Sartre, and Arthur Miller will be investigated together with the theatrical styles the movement developed - Mr. Mueller

202K. Seminar in Colonial and 19th Century American Theater. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Studies in the development of theatrical production and dramatic writing in American theater from 1665 to the 20th Century - Mr. Hethmon, Mr. Wollock

202L. Seminar in 20th Century American Theater. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the American theater's search to define the place of American experience in the modern world - Mr. Hethmon

202M. Seminar in Theater Architecture from the Baroque Playhouse to the Present. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the influence of modern experience on architectural thought in the mid-20th century - Mr. Crabs

203. Seminar in Film and the Fine Arts. Discussion, three hours; laboratory, six hours. Prerequisites: graduate standing and consent of the instructor. Studies in the interrelationship between film and theater, in its broadest sense, with particular emphasis on the impact of acting and mise-en-scene in contemporary and past films.

204. Seminar in Film and the Performing Arts. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the nonfictional film and its relation to contemporary culture.

205. Seminar in Film and the Performing Arts. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the influence of the Surrealist movement in the fine arts, with particular emphasis on the ways in which contemporary theories and practices in painting, music, and dance have influenced the evolving art of film.

206. Seminar in Film and the Performing Arts. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the influence of the Surrealist movement in the fine arts, with particular emphasis on the ways in which contemporary theories and practices in painting, music, and dance have influenced the evolving art of film.

207A. Seminar in Realism, Naturalism, and the Film. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the influence of the Realist and Naturalist movements in literature on form and content of both the silent and the sound film in America and Europe, and particularly on the work of such directors as Von Stroheim, Renoir, and Feyder.

207B. Seminar in Expressionism and Film. Prerequisites: graduate standing and consent of the instructor. Study of the impact of the Expressionist school in literature, art, and architecture, and its effect on the form and content of motion pictures, especially in the decade following World War I on such directors as Lang, Murnau, and Pabst.

207C. Seminar in Social Realism and Film. Prerequisites: graduate standing and consent of the instructor. Study of the development of this movement. Mr. Goodman

207D. Seminar in Surrealism and Film. Prerequisites: graduate standing and consent of the instructor. Study of the influence of the Surrealist movements as articulated by Breton and Apollinaire and reflected in the films of such directors as Germaine Dulac, Antonin Artaud, Luis Bunuel, and Arthur Penn.

207E. Seminar in Neo-Realism and Film. Prerequisites: graduate standing and consent of the instructor. Study of the development of cinema after World War II, notably in Italy, under the influence of French directors such as Renoir and the novels of Hemingway, Dos Passos, Faulkner, and Malraux, and climaxing in the work of such directors as Fellini, Antonioni, and Pasolini.

208A. Seminar in Film Structure. Prerequisites: graduate standing and consent of the instructor. Examination of various film conventions, both fictional and nonfictional, and of the role of structure in the motion picture.

208B. Film Aesthetics. Prerequisite: graduate standing and consent of the instructor. Study and analysis of the film in relation to other art forms.

208C. Advanced Aesthetics. Prerequisite: course 208B, graduate standing and consent of the instructor. Detailed examination and evaluation through study of selected films of the aesthetics of motion pictures as formulated to date and as the foundation for further development.

209A. Seminar in Documentary Film. Prerequisite: graduate standing and consent of the instructor. The documentary film and its relation to contemporary culture.

209B. Seminar in Fictional Film. Prerequisite: graduate standing and consent of the instructor. Film as fiction and its relation to contemporary culture. May be repeated for a maximum of two courses (8 units) credit.

210. Seminar in Contemporary Broadcast Media. Prerequisite: graduate standing and consent of the instructor. Recent and current developments in radio, television, satellites, cable and cartridge television, and telecommunication centers. Commercial broadcasting and alternative systems at home and abroad.

211. Historiography. Prerequisites: graduate standing and consent of the instructor. Examination of the function and methods of writing film history. Study of the role of organizational settings in the development of the discipline from its journalistic origins to its present purpose. Examination of the development of the media will be examined in relation to the principles that have guided historical research.

212. Theory of Action and Motive in Drama. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Examination of the history and meaning of these basic concepts.

213. Seminar in the History of Scenic Design. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of principal designers and modes of scenic expression.

214. Seminar on Social and Economic Factors in Contemporary American Theater. Discussion, three hours. Prerequisites: graduate standing and consent of the instructor. Study of the background of the American theater in terms of economic, political, and social factors affecting the theater's development.

215. Seminar in Critical Methods. Discussion, four hours. Prerequisites: graduate standing and consent of the instructor. Examination of the principal contemporary modes of criticism, including archetypal, sociological, phenomenological, and Aristotelian, with particular emphasis on their role in the theorization of the theater as a cultural institution.

216. Seminar in Puppet Theater. Lecture, three hours. Prerequisites: consent of instructor. Studies
ing and consent of the instructor. Advanced study of problems in the production of ethnographic films. M265A is offered in the winter quarter and M265B is offered in the spring quarter.

264. Seminar in Film Direction. Prerequisite: graduate standing and consent of instructor. A study of directing fictional and documentary films and television. M265A-265B. Ethnographic Film Direction. (1 or 2 courses each) (Same as Anthropology M267B-267C) Prerequisite: course 209C, graduate stand-

Professional Courses

417. Production Project for the Puppet Theater. (2 courses) Laboratory, 30 hours weekly, five hours consultation. Prerequisites: restricted to M.F.A. students; consent of the instructor. The design, construction, and performance of a full-length production with puppets as the culminating exercise for the candidate for the M.F.A. degree in the Puppet Theater. Students will be expected to present the full argument for the design style and techniques used. Prerequisites: consent of instructor(s) and completion of the M.A. degree in the Puppet Theater and consent of instructor.

420A. Advanced Techniques in Acting. Lecture/laboratory, six hours. Prerequisites: restricted to M.F.A. acting candidates in Theater and consent of instructor. Exercises in sense memory, personalization, and objectives to help the student respond truthfully to the real and imaginary stimuli, developing concentration, attention, imagination and spontaneity.

420B. Advanced Techniques in Acting. Lecture/laboratory, six hours. Prerequisites: restricted to M.F.A. acting candidates in Theater and consent of instructor. Preparation and presentation of two-person scenes utilizing sensory work and "objectives" on a more refined basis. The student will now be able to find the similarities and differences between himself and the character and able to play these elements truthfully and spontaneously.

421A. Advanced Projects in Acting. (1 or 2 courses) Lecture/laboratory, six hours. Prerequisites: restricted to M.F.A. acting students in Theater and consent of instructor. Preparation, presentation, and critique of scenes. Systematic role analysis and exercises in acting.

421B. Advanced Projects in Acting. (1 or 2 courses) Lecture/laboratory, six hours. Prerequisites: restricted to M.F.A. acting students in Theater and consent of instructor. 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. Prerequisites: restricted to M.F.A. acting students in Theater and consent of instructor. Class exercises in acting. Preparation and presentation of roles under performance conditions.

423. Advanced Directing of the Actor for Motion Pictures. Lecture, four hours. Prerequisite: consent of instructor. An analysis of the social, artistic and economic roles of the actor as reflected in production and direction. M270. Seminar in Film and Television. Prerequisite: graduate standing and consent of the instructor. A study of the role of technology in film and television with emphasis on the ways in which it is "seen" film and television, with emphasis on the role of the concept in the contemporary television and film industry. M275A. Seminar in Television Documentary. Prerequisite: graduate standing and consent of the instructor. An analysis of the social, psychological and aesthetic advances are re-defining the future of television.

424A-424B. Special Problems in Voice for the Stage. (4 courses each) Lecture/laboratory, two hours. Prerequisites: restricted to M.F.A. acting candidates in Theater and consent of instructor. Development of voice techniques for the stage. Includes work on relaxation, limbering, breathing, articulators, and resonators. Special vocal problems for the individual actor. M. Wilbur
extension. Articulation and the phonetic alphabet. Advanced voice problems. Ms. Wilbur

425A-425B-425C. Advanced Techniques in Movement for the Stage. (1/2 course each) Lecture/ laboratory, two hours. Prerequisites: restricted to M.F.A. acting candidates in Theater and consent of instructor. Special emphasis on: warming up the body, relaxation, gymnastics (balance, falls, stunts), movement techniques and stage combat. Mr. Orth

425D-425E-425F. Special Problems in Movement for the Actor. (1/2 course each) Lecture/ laboratory, two hours. Prerequisites: restricted to M.F.A. acting candidates in Theater and consent of instructor. Physical awareness for the actor, concentrating on individual problems in terms of space, movement, and time. Special emphasis: natural rhythms, relaxation and balance. Mr. Orth

430A-430B-430C. Advanced Studies in Playwriting. Seminar, to be arranged. Prerequisites: courses 230A-230B-230C and consent of instructor. Guidance in the completion of thesis plays. Mr. Stein

432. Manuscript Evaluation. Lecture, four hours; laboratory, to be arranged. Prerequisites: course 132 and consent of instructor or admission to M.F.A. writing program and consent of the instructor. May be taken once each year of M.F.A. residence. Evaluation of manuscripts of beginning writers including but not limited to those produced in the beginning writing course Theater Arts 134.

434. Advanced Motion Picture/Television Writing. (2 courses) Discussion, three hours. Prerequisite: course 135 and consent of the instructor. Advanced problems in the writing of original motion picture/television material. May be repeated for a maximum of 24 units.

436. Nontheatrical Writing for Motion Picture/ Television. Discussion, three hours. Prerequisite: consent of the instructor. Advanced problems in the field of documentary and special feature programs with emphasis on research and pre-production.

442A-442B-442C. Advanced Problems in Costume Design. Lecture/discussion, four hours. Prerequisite: consent of the instructor. Study of costume design for theatrical productions. Development of costume in relation to the theatrical setting, costumes, sets, makeup, properties. Special 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. Restricted to M.F.A. candidates.

443. Problems in Design. (1/2 or 1 course) Lecture/ laboratory, four hours. Prerequisite: admission required. Prerequisite: consent of instructor. Study and practice in design techniques for the theater. May be repeated for a maximum of 12 units.

444. The Development of Costume Design Construction Techniques for Theater. Discussion, three hours. Prerequisites: restricted to M.F.A. candidates and consent of instructor. A study of the effect of artistic and stylistic ideas on the costume and its impact on the women. May be repeated for a maximum of 12 units.

446. Production Planning in Motion Pictures. (1/2 course each) Lecture/laboratory, two hours. Prerequisites: production experience in film and television recording. Special emphasis on: re-recording, mixing sound, and recording technique. Mr. Reiniger

452A. Advanced Motion Picture/Television Sound. Lecture, four hours; laboratory, four hours. Prerequisites: course 152A and/or consent of the instructor. Applications of electronic and acoustic theory to film and television recording and reproduction, including practical demonstration. Mr. Gruen

452B. Music Recording Workshop. Lecture, four hours; laboratory, eight hours. Prerequisites: course 452A and/or consent of the instructor. Supervised exercises in studio music recording techniques, with emphasis on special requirements for motion pictures and television.

452C. Advanced Motion Picture/Television Sound Re-Recording. Laboratory, eight hours. Prerequisites: courses 152B, 452A, and/or consent of the instructor. Techniques of preparation and execution of re-recording using multi-track recording technology, including supervised operational experience.

457. Design for Television. Lecture, one hour, laboratory, three hours. Prerequisite: consent of the instructor. Study and practice in design of television productions. Consideration of style as it relates to all elements of design in live and recorded television programs. Mr. Wolkoff

460A. Problems in Advanced Direction for the Stage. Lecture, to be arranged. Prerequisites: restricted to M.F.A. candidates and consent of instructor. Preparation and presentation of a published one-act play or its equivalent under rehearsal conditions. Discussion and critique of work in progress.

460B. Problems in Advanced Direction for the Stage. Lecture, to be arranged. Prerequisites: restricted to M.F.A. candidates and consent of instructor. Preparation and presentation of a full-length original play under rehearsal conditions. Discussion and critique of work in progress.

464A-464B. Problems in Advanced Direction for the Stage. Lecture, to be arranged. Prerequisites: restricted to M.F.A. candidates and consent of instructor. Preparation and presentation of a full-length original play under rehearsal conditions. Discussion and critique of work in progress.

466A-466B. Motion Picture Direction. (1 or 2 courses each) Hours to be arranged. Prerequisite: consent of the instructor. Special problems in the direction of fictional and documentary motion pictures.

466C. Advanced Television Direction. (1 or 2 courses each) Lecture, two hours; laboratory, six hours. Prerequisite: consent of the instructor. Special problems in the direction of dramatic and documentary television programs.

472. Production and Performance Laboratory. (1/2 course) Hours to be arranged. Prerequisite: admission to the M.F.A. program. May be repeated for a maximum of 8 units of credit. Credit for creative production projects required of all M.F.A. students during the first three quarters of residence. Concurrent scheduling with TA 342 and 225ABC.

479A-479B-479C. Film Project 3. (1, 2 or 3 courses each) Hours to be arranged. Prerequisite: consent of the instructor. The completion of a third film, including its writing, design, production and editing.

480A-480B-480C. Workshop in Radio and Television News. Laboratory, eight hours. Prerequisite: consent of the instructor. Instruction and supervised exercises in reporting, writing, editing, and producing radio and television news, public affairs, and documentary television news. Mr. Gourettes

482A-482B. Advanced Animation Workshop. (1 or 2 courses each) Lecture, three hours; laboratory, three hours. Prerequisites: courses 181A-181B-181C and consent of the instructor. Organization and independent study of creative arts used in animation, resulting in the production of a complete animated film. Mr. McLaughlin

485A-485B-485C. Advanced Television Production. (1 or 2 courses each) Laboratory, 16 hours. Prerequisites: Project 1 (course 179A). 185, 186A-

186B-186C and consent of instructor. Instruction in the creation, preparation, and production of advanced television programs.

488A-488B-488C. Educational Television Workshop. Laboratory, eight hours. Prerequisite: consent of the instructor. Instruction and supervised responsibility to assist in the teaching of educational television programs for educational purposes.

495A. Problems in the Teaching of Theater Arts. Lecture/laboratory, to be arranged. Prerequisites: graduate standing and consent of the instructor. Study of the profession in the teaching of Theater Arts at the college and university level.

495B. Problems in the Teaching of Theater Arts. Lecture/laboratory, to be arranged. Prerequisites: graduate standing and consent of the instructor. Demonstration of competence in theater production through successful completion of a major teaching production assignment. Course to be conducted as a two-quarter sequence offered in Winter and Spring quarters only. Credit will be granted only upon completion of sequence. In-progress grade is S/U.

496. The Practice of Teaching Theater Arts. (4/4 course) Discussion, two hours. Prerequisite: Required: once for all Teaching Assistant 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. This 2 unit course will not count toward the M.A., M.F.A., or P.H.D. TAs may repeat the course. Graded S/U.

Senior Faculty

498. Professional Internship in Theater Arts. (1 or 2 courses) Full or part-time at a studio or on a professional project. Prerequisites: Graduate status plus advanced standing in the M.F.A. program and consent of instructor. An internship in various films, television or theater facilities accentuating the creative contribution, the organization and the work of professionals in their various specialties. Given only when projects can be scheduled.

501. Cooperative Program. (1/2 to 2 courses) Prerequisite: approval of Graduate Advisor and Graduate Dean. Approval of host campus Instructor, Department Chairman and Graduate Dean. The course is used to record the equivalent of 1/2 to 2 graduate students in courses taken under cooperative arrangements with neighboring institutions. To be graded S/U.

Individual Study and Research

596A. Directed Individual Studies: Research. (1 to 3 courses) Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of the instructor.

596B. Directed Individual Studies: Writing. (1 to 3 courses) Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of the instructor.

596C. Directed Individual Studies: Directing. (1 to 3 courses) Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of the instructor.

596D. Directed Individual Studies: Design. (1 to 3 courses) Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of the instructor.

596E. Directed Individual Studies: Acting. (1 to 3 courses) Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of the instructor.

NOTE: For key to symbols. see page 74
596F. Directed Individual Studies: Production. (1 to 3 courses) Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of the instructor.

597. Preparation for the Qualifying Examination for the Ph.D. in Theater Arts. (1 to 2 courses) May be repeated for a total of three courses.

598. M.A. Thesis in Theatre Arts. (1 to 2 courses) Research and writing for the M.A. thesis. Limited to students who have been advanced to candidacy. May be repeated for a total of three courses.

599. Dissertation in Theater Arts. (1 to 2 courses) Research and writing for the doctoral dissertation. Limited to students who have been advanced to candidacy. May be repeated for a total of three courses.

Related Courses in Other Departments
Classics 142. Ancient Drama.
Dance 152A. Lighting Design for Dance Theater.
152B. Costume and Scenic Design 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. World Literature.
Integrated Arts 1A-1B-1C.

ZOOLOGY
The departments of Botanical Science and Zoology have merged to form the Department of Biology. Students currently enrolled as majors in Botanical Science or Zoology may complete requirements as stated in the 1971-1972 General Catalog (or the Supplement to the 1971-1972 General Catalog), or they may petition to change their majors to Biology. Advising appointments and sample curricula are available in the Biology Student Affairs Office.

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**New or changed wording.

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+Terms of Regents appointed by the Governor expire March 1 of the year named in parentheses, with names arranged in order of original accession to the Board. The student Regent (Reene P. Turkell) and alumni Regent serve a one-year term beginning July 1 and ending June 30 of the year listed.

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Glenn Campbell (1984)
William French Smith (1986)
Robert O. Reynolds (1986)
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Dean A. Watkins (1984)
Joseph A. Moore (1990)
John H. Lawrence, M.D. (1988)
Gregory Bateson (1988)
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William R. Fraser (September 1, 1977 to August 31, 1979) Karl S. Pister (September 1, 1979 to August 31, 1980)

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William H. Swanson, M.D.
Jerrold A. Turner, M.D.
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