Supplement

1982-83 Supplement to the 1981-82 General Catalog

University of California

Special Note: As part of Berkeley’s conversion to the semester system, a General Catalog for 1982-83 has not been published. Instead, students are to use this Supplement in conjunction with the 1981-82 Catalog (or the 1981-82 Catalog Reprint) and the quarterly Schedules of Classes.

The Supplement contains up-dated information of most importance in the first 48 pages of the 1981-82 Catalog as well as major academic program and course changes. This information is in the same order as the 1981-82 Catalog. Page references to the Catalog will assist you.

Students are reminded that their departments have the most up-to-date information regarding faculty, curricular, and course changes.

The General Catalog for 1983-84 will be available in July 1983.
<table>
<thead>
<tr>
<th>Fall Quarter 1982</th>
<th>1982-83</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Registration by Mail</strong></td>
<td>May 17*–August 20 Monday–Friday</td>
</tr>
<tr>
<td><strong>Labor Day</strong></td>
<td>September 6 Monday</td>
</tr>
<tr>
<td><strong>Fall Quarter begins</strong></td>
<td>September 15 Wednesday</td>
</tr>
<tr>
<td><strong>Late Registration</strong></td>
<td>September 15–17 Wednesday–Friday</td>
</tr>
<tr>
<td><strong>Pre-enrollment</strong></td>
<td>September 20 Monday</td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
<td>August 23 (for Law School) Monday</td>
</tr>
<tr>
<td><strong>Thanksgiving Holiday</strong></td>
<td>November 25-26 Thursday, Friday</td>
</tr>
<tr>
<td><strong>Instruction ends</strong></td>
<td>November 24 Wednesday</td>
</tr>
<tr>
<td><strong>Final Examinations</strong></td>
<td>November 29–December 4 Monday–Saturday</td>
</tr>
<tr>
<td><strong>Late Registration</strong></td>
<td>December 13–23 Monday–Thursday (for Law School)</td>
</tr>
<tr>
<td><strong>Pre-enrollment</strong></td>
<td>December 4 Saturday</td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
<td>December 23 Thursday</td>
</tr>
<tr>
<td><strong>Fall Quarter ends</strong></td>
<td>December 23, 24 Thursday, Friday</td>
</tr>
<tr>
<td><strong>Christmas Holiday</strong></td>
<td>December 30, 31 Thursday, Friday</td>
</tr>
<tr>
<td><strong>New Year Holiday</strong></td>
<td>December 23, 24 Thursday, Friday</td>
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</table>

<table>
<thead>
<tr>
<th>Winter Quarter 1983</th>
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</thead>
<tbody>
<tr>
<td><strong>Registration by Mail</strong></td>
</tr>
<tr>
<td><strong>Late Registration</strong></td>
</tr>
<tr>
<td><strong>Pre-enrollment</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
</tr>
<tr>
<td><strong>Pre-enrollment</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
</tr>
<tr>
<td><strong>President’s Day</strong></td>
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<tr>
<td><strong>Instruction begins</strong></td>
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<tr>
<td><strong>Final Examinations</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
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<tr>
<td><strong>Final Examinations</strong></td>
</tr>
<tr>
<td><strong>Winter Quarter ends</strong></td>
</tr>
<tr>
<td><strong>Spring Holiday</strong></td>
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<table>
<thead>
<tr>
<th>Spring Quarter 1983</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Registration by Mail</strong></td>
</tr>
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<td><strong>Spring Quarter begins</strong></td>
</tr>
<tr>
<td><strong>Late Registration</strong></td>
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<tr>
<td><strong>Pre-enrollment</strong></td>
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<tr>
<td><strong>Instruction begins</strong></td>
</tr>
<tr>
<td><strong>Late Registration</strong></td>
</tr>
<tr>
<td><strong>Pre-enrollment</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
</tr>
<tr>
<td><strong>Memorial Day Holiday</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
</tr>
<tr>
<td><strong>Final Examinations</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
</tr>
<tr>
<td><strong>Final Examinations</strong></td>
</tr>
<tr>
<td><strong>Spring Quarter ends</strong></td>
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<tr>
<td><strong>Instruction begins</strong></td>
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<tr>
<td><strong>Instruction begins</strong></td>
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<table>
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<tr>
<th>Summer Session 1983</th>
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</thead>
<tbody>
<tr>
<td><strong>Registration</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
</tr>
<tr>
<td><strong>Independence Holiday</strong></td>
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<tr>
<td><strong>Instruction ends</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
</tr>
<tr>
<td><strong>Instruction ends</strong></td>
</tr>
<tr>
<td><strong>Instruction begins</strong></td>
</tr>
</tbody>
</table>

*Continuing students receive registration forms beginning May 17.*
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Information Guide

University of California, Berkeley
Berkeley, CA 94720
Area Code 415

Admissions, Graduate
1 California Hall, 642-7405
Admissions, Undergraduate
120 Sproul Hall, 642-0200
Advising, Pre-Professional and
Pre-Graduate
2440 Bancroft Way, 642-5207
Alumni Association
Alumni House, 642-7026
Associated students (ASUC)
300 Eshleman Hall, 642-1431
Athletics, Intercollegiate
Men: Harmon Gymnasium, 642-0580
Women: 177 Hearst Gymnasium, 642-2098
Botanical Garden
Strawberry Canyon, 642-3343
Career Planning and Placement
Building T-6, 642-1716
Child Care Services
2537 Haste Street, 642-1827
Counseling and Psychological Services
Building T-5, 642-2366
Disabled Students' Program
2515 Channing Way, 642-0518
642-6376 (TDD)
Education Abroad Program
2538 Channing Way, 104 Building D,
642-1356
Educational Opportunity Program (EOP)
Building T-8, 642-7224
Financial Aid
201 Sproul Hall, 642-1455
Foreign Student Admissions,
Undergraduate
120 Sproul Hall, 642-3246
Foreign Student Advising
International House
2299 Piedmont Avenue, 642-2818
Health Services
Cowell Hospital, 642-2000
642-5012—future appointments
642-6890—same day appointments
Housing
2401 Bowditch Street, 642-3642
Interfraternity Council (Fraternities)
224 Sproul Hall, 642-5753

Library Information
Main Library Reference Desk, 64-BOOKS
Pacific Film Archive
2625 Durant Avenue, 642-1124
Panhellenic Office (Sororities)
224 Sproul Hall, 642-7507
Police
1 Sproul Hall, 642-6760
Emergency 9-911 (or 911
from non-campus extensions)
Rape Prevention Education Program
388 Cowell Hospital, 642-7310
Rape Counseling Center
Building T-5, 642-2366
Relations with Schools
407 Eshleman Hall, 642-5135
Sports, Intramural and Recreational
193 Harmon Gymnasium, 642-8342
Strawberry Canyon Recreational Area
Strawberry Canyon, 642-5575
Student Activities and Programs
103 Sproul Hall, 642-5171
Student Information Center
102 Sproul Hall, 642-6412
Student Learning Center
Building T-8, 642-7332
Summer Session
22 Wheeler Hall, 642-5611
Tours, Campus
Visitor Center, Student Union, 642-5215
University Art Museum
2625 Durant Avenue, 642-0808
University Extension
2223 Fulton Street, 642-4111
Visitor Center
Student Union, 642-5215
Women's Center
112 Building T-9, 642-4786
Undergraduate Education

Catalog page 15. Subject Requirement.

b. English. Four years of university preparatory English Composition and/or literature; not more than one year will be accepted from the ninth grade.

Catalog page 18. University Requirements. Subject A. Students who have not satisfied the requirement after three quarters will not be eligible to enroll in the University for a fourth quarter.

Catalog page 19. American History Requirement


Please Note: The above list may change during the year. It is the student's responsibility to check with the AH&I Office at the beginning of each quarter to see whether any courses have been dropped from or added to the list.

3. By presenting official evidence of completion of a course, taken at an accredited college or university, which is equivalent in scope and content to those on the approved UC Berkeley American History List. The Admissions Office will approve some but not all such courses. Students not cleared by Admissions (including those transferring from other UC campuses) should present a syllabus, reading list, and grade report from the course to the American History and Institutions Office, 29 Dwinelle Hall. Students are encouraged to submit such course descriptions for approval prior to enrolling in the course.

Required Fees

University Registration Fee—$170 per quarter, $255 per term (for students in the School of Law). Paid by all students. Covers normal expected usage of such facilities as laboratories, gymnasiums, counseling and placement services, health services, etc.

Educational Fee—Paid by all undergraduates at $208 per quarter, by students in the School of Law at $342 per term, and by all other graduate students at $220 per quarter. Used to support a portion of the cost of the educational program. The Educational Fee may be reduced to $50 for undergraduate students who have received prior approval from the Dean of their College or School to enroll in a program of less than 9 units. Eligibility must be established no later than the end of the third week of classes.

Berkeley Campus Fee—Paid by all students in the amount of $12.50 per quarter and by students in the School of Law in the amount of $18.75 per term. Provides support for a wide range of activities sponsored by the ASUC, including work with academic and administrative units of the campus, covers use of the Student Union, helps pay costs of construction of the Union building, and assists with the provision of ethnic studies on the Berkeley campus.

Nonresident Tuition—$1050 per quarter, $1575 per term, School of Law. At the time of registration, every entering student is classified as a resident or nonresident for tuition purposes. Only U.S. citizens and holders of immigrant visas can become qualified for resident classification. Under California law a student is classified as a resident for tuition purposes if the student has had residence in the state for more than one year immediately prior to the day instruction begins at the last of the campuses to open for a quarter. Residence is the combination of physical presence within the state plus intent to reside in California. A nonresident student must pay a nonresident tuition fee each quarter. For detailed information regarding the establishment of California residence, see Appendix, or write to the Attorney in Residence Matters, 590 University Hall, University of California, Berkeley, CA 94720.

Foreign Student Health Insurance—has been included in foreign student fees—$39.00 per quarter, $58.50 per term, School of Law. Required of all students on nonimmigrant visas. Payment of the fee for three consecutive quarters (two terms in the School of Law) covers the student for the full academic year, including summer.

Additional Fees and Expenses

Late Registration—$50. Students who register during the late registration period (see Calendar for dates) are liable for this fee.

Late Study List Filing—$10. Students who file their Study Lists late (see Calendar for dates) are liable for this fee.

Reinstatement—$10.

Athletic Privilege Cards—$20. Student Football Season Ticket: $15. Basketball/All Sports Card. Both Optional. Permit free admission or reduced rates to most University athletic events.

Total Expenses: The cost of attending the University varies according to individual circumstances. The expenses listed on the following page are approximate costs for the nine-month academic year and should be used only as a guideline.

Table of Fees

At the time of registration, by mail or in person, the following fees are paid by each student:

<table>
<thead>
<tr>
<th>Student Category</th>
<th>Fall, Winter, or Summer 1982-83</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident Undergraduate</td>
<td>$390</td>
</tr>
<tr>
<td>Nonresident Undergraduate</td>
<td>1440</td>
</tr>
<tr>
<td>Foreign Undergraduate</td>
<td>1479</td>
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<tr>
<td>Resident Graduate</td>
<td>410</td>
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<tr>
<td>Nonresident Graduate</td>
<td>1460</td>
</tr>
<tr>
<td>Foreign Graduate</td>
<td>1499</td>
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</table>

School of Law

<table>
<thead>
<tr>
<th>Term 1982-83</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident Graduate</td>
</tr>
<tr>
<td>Nonresident Graduate</td>
</tr>
<tr>
<td>Foreign Graduate</td>
</tr>
</tbody>
</table>
Financial Aid

The Financial Aid Office is located at 201 Sproul Hall. By visiting or writing that office you may obtain information about the various types of student aid offered. Undergraduate students may apply to the Financial Aid Office for undergraduate scholarships (including Regents' Scholarships) and Supplemental Educational Opportunity Grants (SEOG). Both undergraduate and graduate students may apply for University Grants-in-Aid, Educational Fee Grants, National Direct Student Loans, University Loans, Guaranteed Student Loans, Educational Fee Deferral Loans, Work-Study Program, and other aid programs.

All financial aid except honorary scholarships and prizes are granted on the basis of financial need. Financial need is the difference between the student’s own resources and the allowable education expenses. Prizes are awarded on the basis of competition or outstanding ability in some area of creative or scholarly achievement. Undergraduate scholarship awards are made on the basis of scholarship and financial need, except Regents’ and Alumni Honorary Scholarships which are awarded in recognition of outstanding achievement and promise. Complete information concerning all of these programs except prizes is contained in the Financial Aid Handbook 1983-84 which may be obtained from the Office of Financial Aid. A separate booklet describing the various prizes offered is also supplied on request by the Committee on Prizes, 205 Sproul Hall.

Financial Aid application information for entering undergraduate students is in the Admission Packet. Financial Aid Application forms for entering graduate students are in the Graduate Admission Application. Application forms for continuing undergraduate and graduate students are available at 201 Sproul Hall. The deadline for submitting these forms will be announced during the Fall Quarter.

Information and application materials concerning graduate fellowships and graduate scholarships may be obtained separately from the Graduate Division, 1 California Hall. The application is normally due by December 1.

### University of California, Berkeley 1982-83 Student Budgets

<table>
<thead>
<tr>
<th></th>
<th>Commuter</th>
<th>Dorm</th>
<th>Off-Campus</th>
<th>Married</th>
<th>Single Parent</th>
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</thead>
<tbody>
<tr>
<td>Housing &amp; Utilities</td>
<td>—0—</td>
<td>2755</td>
<td>2061</td>
<td>3471</td>
<td>3471</td>
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<tr>
<td>Food</td>
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<td>4963</td>
<td>1524</td>
<td>2910</td>
<td>2700</td>
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<tr>
<td>Books &amp; Supplies</td>
<td>345</td>
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<tr>
<td>Personal</td>
<td>858</td>
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<td>858</td>
<td>1647</td>
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<tr>
<td>Transportation</td>
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<tr>
<td>Fees</td>
<td></td>
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<tr>
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<tr>
<td>Graduate</td>
<td>1232</td>
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<td>1232</td>
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<tr>
<td>Law</td>
<td>1262</td>
<td>1262</td>
<td>1262</td>
<td>1262</td>
<td>1262</td>
</tr>
<tr>
<td>Budget Totals (Rounded)</td>
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<tr>
<td>Undergraduate</td>
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<td>$6193</td>
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<td>$6462</td>
<td>$6434</td>
<td>$10,244</td>
<td>$10,036</td>
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</table>

1 Add $1599 for each additional dependent to the budget total. Add $211 extra food allowance for each dependent over 12 years old.
2 Dorm: Housing and Utility figure includes regular meals. Dorm figure for Law Students is $3350.
3 Food figure covers vacation and break costs for dorm residents.
4 Add Non-resident tuition of $3150.
5 Law budget total includes an extra $151 book allowance.
6 Will adjust to actual costs for students living in Family Student Housing.

### Salary and Employment Information/Representative Colleges*

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Average Monthly Salary of Graduates</th>
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<tbody>
<tr>
<td><strong>Degree Level:</strong></td>
<td><strong>Bachelor's</strong></td>
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<tr>
<td>Accounting</td>
<td>$1333-1680</td>
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<tr>
<td>Bus Admin. (General)</td>
<td>1041-1815</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>900-1750</td>
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<tr>
<td>Computer Science</td>
<td>1584-2062</td>
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<tr>
<td>Engineering</td>
<td>1816-2433</td>
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<tr>
<td>Humanities</td>
<td>833-1658</td>
</tr>
<tr>
<td>Physical and Earth Sciences</td>
<td>1266-2350</td>
</tr>
<tr>
<td>Economics</td>
<td>1000-1709</td>
</tr>
<tr>
<td>Other Social Sciences</td>
<td>950-1500</td>
</tr>
</tbody>
</table>

* Source: A January 1982 national survey of representative groups of colleges conducted by the College Placement Council representing the 80 percent range of offers throughout the country. It should be noted that a wide variation in starting salaries exists within each discipline based on job location, type of employer, personal qualifications of the individual, and employment conditions at the time of job entry. Recipients of UC Berkeley degrees are often more in demand than degree earners from representative colleges across the nation.

Cal Grants A (California State Scholarships) are awarded by the State and are open to undergraduates who can demonstrate exceptional financial need. The awards range from $1100 to $1905 per academic year.
School of Business
Page 49 (Third column)

M.B.A. fields of emphasis: Accounting, Business and Pub-
lic Policy, Economic Analysis and Policy, Finance, General
Management, International Business, Marketing, Manage-
ment Science, Organizational Behavior and Industrial Rela-
tions, Real Estate and Urban Land Economics.

New Courses

228A. Income Taxation. (4) Three hours of lecture and
11/2 hours of discussion per week. Prerequisites: 202A, 202B or
equivalent. Study of the fundamentals of income taxation
relating to individuals and business entities. Intro-
duction to tax research, tax planning, and tax policy. (F)

228B. Advanced Topics in Income Taxation. (4) Three
hours of lecture per week. Prerequisite: 228A. Study of
corporate tax problems, partnership tax problems, sub-
chapter S corporations, estate and gift taxation, income
taxation of trusts and estates, tax research, tax planning,
and administrative procedures. (W)

Change in Description

220B. Financial Accounting. (4) Three hours of lecture per
week. Prerequisite: 221B. Continuation of the study of
financial accounting. Special emphasis is placed on con-
solidations and contemporary topics in income measure-
ment such as inflation accounting, leases, pensions, and
foreign currency translation. (F, W, Sp)

221. Financial Accounting Theory. (4) Three hours of lec-
ture per week. Prerequisites: 220A, 202A (may be taken
concurrently). A theoretical framework for making accoun-
ting choices: objectives, criteria, elements of financial
statements, and alternative approaches to their measure-
ment. Current issues in the development of a conceptual
framework for financial reporting and in the standards-
setting process. (W, Sp)

222. Financial Information Analysis. (4) Three hours of lec-
ture per week. Prerequisites: 220A, 202B or equivalent.
Focuses on issues of accounting information evaluation
with special emphasis on the use of financial statements by
decision makers external to the firm. Implications of recent
research in finance and accounting for external reporting
issues will be explored. Emphasis placed on models that
describe the user's decision context. (W, Sp)

223. Money Markets and Financial Institutions. (4) Three
hours of lecture per week. Prerequisites: 222, 221. Struc-
ture and operations of the Federal Reserve System, com-
mercial bank and non bank financial institutions. Impact of
money supply policy and fiscal regulation. Portfolio com-
position and market behavior of financial intermediaries.
Organization and functions of money markets. Structure of
yield curves and the influence of financial intermediaries
and monetary policy.

College of Chemistry

Chemical Engineering

New Courses

257. Polymer Rheology and Melt Processing. (3) Three
1-hour lectures per week. Prerequisites: graduate standing
or consent of instructor. 150 or an equivalent course in fluid
flow. Rheological properties of polymers, continuum me-
chanics and molecular models, kinematics and dynamics of
cellular processes, analysis of procedures, including extru-
dition, calendaring, fiber spinning, injection molding, wire
coating and mixing.

258. Polymerization Reaction Engineering. (3) Three
1-hour lectures per week. Prerequisites: 150, 250, 247, or
consent of instructor. Analysis of polymerization mech-
nanisms and kinetics. Design of polymerization reactors, in-
cluding dynamics, optimization and control.

School of Education

New Courses

134A. Foundations in Reading in Grades K-12. (3) Form-
ally 134A-134B. Three hours of lecture plus field work
assignments in the public schools. Prerequisite: admission
to Developmental Teacher Education program. Orientation
and training in field instruction in school setting, basic reading
skills, instructional materials and approaches, diagnostic
prescriptive teaching, reading theories, differentiated as-
signments, deterrents to progress in reading English,
ethic, socio-economic, and dialectical. Supervised teach-
ing may begin before the opening day of each of the quarters
in order to fit the calendar of the public schools.

191B. Interpersonal Communication Skills. (3) One
11/2-hour lecture/discussion and one 11/2-hour laboratory
per week. Introduction to interpersonal communication
theory, research, and performance. Emphasis on percep-
tual, verbal, and behavioral skills that are conducive to effective
communication in a variety of personal, academic, and
professional relationships. To be offered 1983-84 only. (F, W, Sp)

214E-214F. Seminar on the Re-Education of the Severely
Socially-Emotionally Disturbed Child and Adolescent. (3-1)
One 3-hour seminar per week. An introduction to the instruc-
tor. Courses will integrate students' field assignment experience
with emotionally disturbed children with related cognitive and
affective concepts. Seminars will focus on knowledge and
skills required by professional personnel in re-ED pro-
gram. (W, S)

214G. Social Development (4) One 3-hour session per
week. Prerequisite: consent of instructor. An examination
of theory and research on social development from child-
hood to early adulthood. Review of different theoretical
orientations to everyday policy and individual cognition, morality,
psychosexual develop-
ment, and role of social-environmental factors. (W)

216A. Higher Education: History of the American College
and University. (4) One 3-hour lecture per week. Social and
intellectual history of American higher education. European
ancestors, institutional change, student and faculty cul-
tures over time, and shifting functions of higher education
in American society. (W)

216B. Higher Education: Contemporary Development, Is-
sues, and Challenges. (3) Three 1-hour lectures per week.
A comprehensive review of major areas of higher education
and their functional inter-relationships. A critical appraisal
of the changing issues, problems, innovations, and devel-
opments in colleges and universities. (F)

219L. School Law. (3) One 3-hour lecture per week.
Prereq-
usites: graduate standing in instructional Research and
Curriculum Development. Survey of law affecting teachers and
school employees; basic princi-
ples of constitutional law, contract, tort, and labor law; case
analysis and application to problems of the Cal-
ifornia Education Code. To be offered 1982-83 and 1983-84
only.

219O. Educational Applications of Microcomputers. (Z-4)
A self-paced computer-taught periodic section recep-
tions. Prerequisites: graduate status and consent of
instructor. All students must enroll for at least two units per
quarter. An introductory course focusing on implications
and applications of microcomputers for educational prac-
tice. Students will learn how to operate micros and to use
and develop instructional software for use with such
technology. Visitation to institutions using computers will be
required. To be offered 1982/83 only. (F)

219P. Theories of Teaching Writing. (4) One 3-hour
seminar per week. Introduction to problems, issues, and
trends in the teaching of writing. (F)

219Q. Approaches to the Teaching of Writing. (4) One
3-hour seminar per week. Prerequisite: 219P or consent of
instructor. Conceptual and empirical approaches to
problems of the teaching of writing. (W)

219R. Writing in the Schools: Research and Practice. (4)
One 3-hour seminar per week. Prerequisite: consent of
instructor. An introduction to research on written
composition that bears on the teaching of writing. Prepara-
tion for designing and conducting a classroom-based re-
search project on some aspect of the teaching of writing. (Sp)

219S. Women in Higher Education. (4) One 3-hour ses-
sion per week. A seminar on the roles and responsibilities
of women's participation in the curriculum and ex-
tracurriculum. To be offered 1982-83 and 1983-84 only. (F)

IDS 196A-196B. The Developing Child in Contemporary
Society. (5) See interdisciplinary Studies for the com-
plete description of this course.

Change in Description

253B. Special Education Law. (3) One 3-hour lecture per
week. Course emphasizes (1) substantive and procedural
legal aspects of special education, (2) administrative law
context of special education, (3) legal roles, duties and
responsibilities of administrators, teachers, psychologists,
and other resource staff. (4) case study approach. (F)

College of Engineering

Petroleum Engineering (New Major)

The Petroleum Engineering program is designed to
prepare students for careers in the petroleum producing indus-
try and related fields. Petroleum engineering requires a
wide array of problems associated with the location, drilling
and completion of oil and gas wells, management of sub-
surface reservoirs to obtain the maximum recovery of oil
and gas, and development and application of enhanced oil recovery
techniques, lifting of oil to the surface and surface handling of the
produced fluids. Many petroleum engineers are also becoming
involved in related energy areas such as extraction
of oil from tar sands and oil shales, and geothermal
energy production.

The exploration, development, and production of oil and
gas, and other fossil fuels, in an environmentally acceptable
manner become more and more complex as we continue
to consume these exhaustible resources. The best estimates
indicate that from two-thirds to three-fourths of all the oil
ever discovered in the United States is still in the sub-
basement reservoirs awaiting the development of new recovery
technologies.

The Petroleum Engineering program reflects the energy
industry's need for versatile, innovative engineers by
providing a strong basic engineering curriculum while main-
taining a diversity in elective course offerings. Students will
be able to channel their own interests by choosing one of
the following three program emphases:

1. Mechanical Engineering emphasis (students following
this emphasis will also satisfy requirements for the B.S.
in Mechanical Engineering)—includes extra courses in
dynamics, controls, and electronic systems.

2. Chemical Engineering emphasis—includes physical
chemistry, chemical kinetics, and mass transfer
courses.

3. Mineral/Geological emphasis—includes extra courses in
geology, rock mechanics, and mining principles.

Curriculum for the Bachelor's Degree

A total of 183 units is required, including

Lower Division. Required: Mathematics 1A-1B-1C, 50A-
50B-50C; Chemistry 1A-1B; Physics 5A-5B-5C-5D; Com-
puter Science 1; Engineering 25, 26, 36, 45, and 48,
Geol-
ogy 10 and 22 units of electives as approved by an adviser.

Upper Division. Required: Mechanical Engineering 102A-
149, and 150; Chemical Engineering 140; Civil Engineering
130A; Electrical Engineering and Computer Sciences 105;
Engineering 120, Geology 106, and Mineral Engineering
116, plus 23 units of electives as approved by an adviser.

For more details, consult the Announcement of the Col-
lege of Engineering.

The graduates program in Petroleum Engineering is of-
ered as a field of study in Mechanical Engineering.

Naval Architecture and Offshore Engineering (New Major)

Curriculum for the Bachelor's Degree

A total of 180 units is required.
Civil Engineering

New Courses

171. Introduction to Transportation Planning and Implementation. (4) Two 1½-hour lectures and one 3-hour laboratory per week. Prerequisites: 10, Statistics, Policy, and Investment decisions in transportation planning. Development of the rural highway system and the Interstate. Functions of urban roads and streets: modern urban transportation planning, transit. Energy and environmental considerations in the planning process. Railroad investment and management. Non-urban roads. Modern urban transportation planning, transit. Energy and environmental considerations in the planning process. Railroad investment and management. Non-urban roads. (F, W)


223B, Computer Methods for Nonlinear Structural Analysis. (3) Three 1½-hour lectures per week. Prerequisites: 220A and knowledge of FORTRAN programming, Numerical methods and digital computer programming techniques for the analysis of nonlinear structures. Computational techniques for structural stability. Large displacement and inelastic analysis of building and element systems. (Sp)

224A Finite Element Methods. (3) Two 1½-hour lectures per week. Prerequisites: 220A and 230A. Finite element methods in linear structural analysis. Shape functions for simple and composite elements. Application to stress, plane strain, torsion, axisymmetric solids, three-dimensional solids, plates, and shells. Modeling and mesh selection. (F, Sp)

224B. Advanced Finite Element Methods. (3) Two 1½-hour lectures per week. Prerequisites: 228A and 224A (or ME 180). Application of finite element methods to solve selected transient and nonlinear problems in structural mechanics. Displacement and mixed-mode formulations. Programming procedures for developing finite element matrices. Evaluation of program correctness and accuracy of different problem formulations. (F)

228A. Materials for Structural Design and Construction. (4) Three hours of lectures and 2 hours of laboratory per week. Prerequisite: 170 or equivalent. Presentations emphasizing the need for proper selection and use of materials. Examination of the chemistry and properties of construction materials and their importance in building design and operation. (W)

228B. Advanced Study of Cementitious Materials. (3) Two 1½-hour lectures per week. Prerequisite: 110, 111 or equivalent. Composition and properties of different types of Portland cements. Hydration, microstructure of hydrated cement paste and its influence on strength, shrinkage, and durability. Expansive cements, alumino-silicate cements, and special Portland cements. (W)

229. Video Graphics Languages and Techniques. (3) Three 1½-hour lectures per week. Prerequisite: CS 256 or consent of instructor. Real time generation and modification of video images. Languages and systems for special effects, animation, interactive control of recording and editing. Digital control of analog video processors. Recent advances in hardware and software systems. (F)

230. Computer Aided Geometric Design. (3) Two 1½-hour lectures per week. Prerequisite: numerical analysis course or consent of instructor. Mathematical techniques for curve and surface representation including: Hermite interpolation, interpolatory splines, tension splines, Bezier curves and surfaces, B-splines, Beta-splines, Coons patches, tensor product forms, lofted patches, blending functions methods, Boolean sum schemes. (Sp)

292X. VLSI Systems Implementation. (3) Three hours of lecture and 1½-hour discussion per week. Prerequisites: 248, 292X is desired. Instruction in how to take a collection of hardware elements and combine them into a single, coherent, very large scale integration (VLSI) integrated system. Topics in digital testing techniques, design of testable systems, traditional digital design topics. (W)

Change in Description

3. Introduction to Programming. (4) Three hours of lectures and one 1½-hour scheduled consulting. Prerequisite: high school algebra. No more than 4 units of credit may be earned for any combination of C51, 135, 135S, 135T, and 136. The same material as CS2 but with self-paced format. Units assigned depend on amount of work completed. Units assigned depend on the amount of work completed. May be repeated for credit up to a total of 4 units. (Split grading will be assigned for units not completed.) (F, W, Sp)

95. Topics in Computer Science. (1) Change: may now be repeated up to three times for credit.

102S. Self-paced Introduction to Programming. (1-4) Three to 12 hours of discussion per week. Prerequisite: high school algebra. No more than 4 units of credit may be earned for any combination of CS1, 135, 135S, 135T, and 102S. Emphasis and self-paced. Units assigned depend on the amount of work completed. May be repeated for credit up to a total of 4 units. (Split grading will be assigned for units not completed.) (F, W, Sp)

Industrial Engineering and Operations Research

New Course

121. Advanced Engineering Economy. (4) Three 1½-hour lectures and one 1½-hour laboratory per week. Prerequisites: E120 and a basic course in probability. Review of cash flows over time, evaluation of single and multiple projects under constraints, sensitivity of projects selection to data changes, and fluctuations of market conditions, decision analysis under risk and uncertainty, efficient portfolios, capital asset pricing, project selection in the public and private firm. (Sp)
Materials Science and Mineral Engineering

New Courses


290L. Corrosion and Protection. (3) Three 1-hour lectures and 1 hour of discussion per week. Prerequisite: consent of instructor. Electrochemical theory of corrosion. Mechanisms and rates in relation to physicochemical and metallurgical factors. Stress corrosion and other mechanical influences on corrosion. Fundamentals of corrosion protection by inhibition, cathodic protection and coatings.

290K. High Temperature Corrosion. (3) Three 1-hour lecture and 1 hour of discussion per week. Prerequisite: consent of instructor. Thermodynamics and kinetics of metal corrosion and sulfidation. Defects and transport through oxides. Stress generation and relief in growing oxides and scale failure processes.


290J. Semicon ductor Characterization. (3) Three hours of lecture per week. Prerequisite: 250 or consent of instructor. Modern electrical, optical, and physical techniques for the characterization of semiconductor bulk single crystals and their crystalline and amorphous layers. Examples of Hall effect, Deep Level Transient Spectroscopy, IR-Spectroscopy, Secondary Ion Mass Spectrometry, Rutherford Backscattering Spectrometry, and others.

Mineral Engineering

New Course

216. Hazards in Mine Environment. (3) Three hours of lecture per week. Prerequisite: upper division or graduate standing. Course complements Mine Environmental Engineering 215. Emphasis given to physiological effects of mine gases, dust, heat, and humidity. Deals with underground fires, explosions, spontaneous combustion in addition to problems of radiation, noise and illumination.

Engineering Geoscience

New Courses

290A. Inverse Theory in Applied Geophysics. (4) Three 1-hour lectures and 1 hour of discussion per week. The course covers the fundamentals of linear and non-linear inverse theory in exploration geophysics.

290B. Geophysical borehole Logging. (5) Two hours of lecture and 1 hour of discussion per week. Prerequisite: consent of instructor. Introduction to borehole geophysical logging, with emphasis on the physical properties of rocks and borehole measurement methods. Electrical, radiation, acoustic, and thermal methods will be discussed in terms of propagation of fields and particles in rock, sources and detectors, response equation relating physical property to measured quantity, borehole corrections and probe calibrations.

Mechanical Engineering

Change in Description

108B. Heat Transfer. (3) Three hours of lecture per week. Prerequisites: 104A or (103), 105A, 106A. Conductive and convective transport of material and energy. Thermal radiation interchanges.

110. Mechanical Engineering Project Engineering. (4) Two 1-hour lectures and one 1 1/2-hour discussion per week. Prerequisites: 108B, 1078 (may be taken concurrently). The course is intended to introduce concepts of mechanical engineering design. The students will complete preliminary designs of realistic mechanical engineering systems and by design seminars and conferences.

142. Heating, Air Conditioning, and Refrigeration. (3) Three 1-hour lectures and 1 hour of discussion per week. Prerequisites: 105B, 106A, 108B recommended). Production and control of heat and mechanical systems for human habitation, including air-conditioning and psychrometric processes. Emphasis on analysis of energy utilization by thermal environment control processes; conservancy measures will be discussed. (W)

Nuclear Engineering

New Course

167. Reliability and Risk in Nuclear Systems. (4) Four hours of lecture per week. Prerequisites: Math 50A-50B-50C. Probability concepts, discrete and continuous distributions, generating functions and moments, failure models, reliability based on destructive and non-destructive testing, event-tree and fault-tree analysis. Applications to nuclear systems, bearing on quality assurance and estimation of risk.

College of Environmental Design

Environmental Design

New Course

110. People Making Places: Video Documentation. (4) Two 1-hour seminars per week. Video documentation of cases in which ordinary people organize to make, remake, or protect their environments. (F)

Change in Description

6A-6B. Drawing and Graphic Communication for Environmental Design. (4-4) Two hours of lecture and 6 hours of laboratory per week. Two quarter sequence to be taken consecutively. Prerequisite: 1D, 1E, or 4D or 5 are recommended. 6A: Fundamentals. 6B: Introduction to freehand drawing and mechanical drawing systems as analytic tools for environmental design. Emphasis on the underlying mental and physical conventions: their implications and applications. (F, W, Sp)

Architecture

New Courses

1090. Seminar in Studio-Based Design Issues. (3) One 2-hour seminar per week. Prerequisite: concurrent enrollment in the appropriate 100-series design studio or consent of instructor. Cultural and historical issues raised in the design studio, taken concurrently, within which these issues are treated. Course may be repeated for credit with consent of instructor. (W)

1295. Design and Construction of Furnishings for an Urban Environment. (4) One hour of lecture and 7 hours of laboratory per week. Prerequisite: consent of instructor. The design and construction of furnishings in urban space for which problems for urban environments in which space and resources are limited. (F, Sp)

139C. Practical Writing for Architects. (4) Two 1-hour lectures and discussion per week. Prerequisite: English 1A-1B, or equivalent. Intensive practice in writing required by design professionals. Emphasis on writing as a process, prewriting, re-writing, and editing skills. Attention to all standards of writing and to writing for particular audiences. Coordinating written and graphic components. (F)

179F. Traditional Architecture of Africa. (4) Two 1-hour lectures per week. Survey of major buildings of indigenous cultures and their relationship to their environments. An ability to use architecture as a source of inspiration and creativity. (W)

179G. Native American Architecture. (4) Two 1-hour lectures per week. Survey of the evolution and range of traditional American Indian house types, village patterns, and land-use systems through ecological, technological, socio-economic, historical and belief-system analyses. (Sp)

V.S. 184G. Signs of Life: Visual Metaphor in Two and Three Dimensions. (4) Two 1-hour lectures and 1 hour of discussion per week. Prerequisite: consent of instructor. Recognition and appreciation of the material and the metaphoric qualities of objects ranging from alphabets and page layout to furniture and buildings. (Sp)

V.S. 1910. Life Drawing for Architects. (2) One 3-hour studio per week. Prerequisite: ED6A-6B or consent of instructor. May be repeated for credit. Intensive studio experience in drawing the human figure. Preparatory for life drawing and writing to support the design process. Course includes lecture, discussion, readings, and classroom events. To be offered 1982-83 only. (W)

1910. The Villa: The House in the Landscape, 1500-1981. (4) Two 1-hour lectures and discussion per week. Prerequisite: ED10A or equivalent, or consent of instructor. The villa as architectural type in Europe and North America 16th-20th; form, function, and socio-cultural interpretations; relationship to modern ideas about Nature. To be offered 1982-83 only. (F)

191P. American Institute of Architects Centennial Show. The Role of the Architectural Practitioner in the Evolution of the City. (5) Three 1-hour seminars and 15-20 hours of independent studio work per week. Prerequisite: consent of instructor. Preparation of model drawings and models for the AIA Centennial Show at the San Francisco Museum of Modern Art in October, 1982. Field trips and guest lecturers will supplement the course work. (W)

202A-202B-202C. Architectural Design (6-6-6 or 9-9) Four hours of lecture (five four-hour units for 9-9) Three 1-hour seminars per week. Prerequisite: Architecture 1500-1981. Three quarters of 201 or equivalent. Students receive a grade upon completion of all materials. 202A: 1924-1936. Emphasis on credit and grade assigned upon completion of the sequence. Problems in architectural design dealing with standard issues or building types of greater complexity. The focus may be on such topics as energy issues, theoretical issues, cultural issues, or other such topics. Projects from 2034 frequently become the basis of a thesis in 2028-202C. (F, W, Sp)

206. Pattern Languages: Theory and Applications. (4) Two 2-hour seminars per week. Prerequisites: graduate standing or consent of instructor. Seminar on theory and implications of use of pattern languages. The nature of healthy environments; the design of buildings; shared pattern languages in society; examples of application in architecture, landscape design, construction process, professional, political, economic implications. (Sp)

239M. Critical Writing for Architects (4) (W)

249E-249F. Integration of Building Services in Design. (2-2) One 2-hour seminar per week. Prerequisite: 140A-140B or consent of instructor. Must be taken concurrently with 249E-249F by students enrolled in Combined Problem section. (W, Sp)

259F. Design Problems in Structure and Construction. (2-2) Two 1-hour laboratory per week. Prerequisite: 1500-1981. Two quarter sequence to be taken concurrently with 259E, 259F by students enrolled in Combined Problems section. Structural and construction considerations, seismic forces and their relationship to architecture. (W)

269A. Construction Assemblies. (3) One 1-hour lecture per week plus four 1-hour field trips per quarter. Prerequisite: must be taken concurrently with 269B by students enrolled in Construction Problems section. (W)
219F. Urban Technology and Planning of Hazardous Areas. (4) Three hours of lecture and 1 1/2 hour of seminar per week. Course will cover principles and advanced topics in design theory, methods, and practice, primarily for advanced graduate students. (F, W, Sp)

231. Graduate Seminar in Urban Planning and Design. (2) Two 1 1/2-hour seminars per week. Prerequisite: 230 or 231, depending on the course with which the seminar scheduled. Course and advanced topics in design methods, theories, and practice, primarily for advanced graduate students. (F, W, Sp)

City and Regional Planning

New Courses

115. Urbanization in Developing Countries. (4) Four hours of lecture and discussion per week. Development, urbanization, international relations; international labor patterns; urban-rural migration; local governments, decentralization, national and regional; land use policies; housing, energy, transportation; international agencies: the World Bank. Comparative analysis of planning experiences. Intensive reading required. (Sp)

191A. Urban Economics and City Planning. (5) Five hours of lecture and discussion per week. Prerequisites: Econ 100A or equivalent, or consent of instructor. Upper division standing. Introduction to applications of urban economic and regional economic models to land use, urban development, housing, transportation, and municipal services. Course examines practical uses and limitations of economic analysis for policy purposes, urban planning guidance, and introduces students whose primary interest is urban problems, rather than economics per se. (F)

208B. History of Urban Planning. (2) Formerly 208A, 201. Two hours of lectures per week, 2 hours of meetings per week. Review of the history of urban planning and its relation to the history and evolution of cities. (F)

201. Introduction to the City Planning Process and Process. (6) Four hours of meetings per week. Review of the development of the profession and the practice of urban planning, including introduction to the various specialties within the profession; planning process, needs assessment, diagnosis and goal formulation, analysis, design and selection of alternatives, formulaion recommendations and implementation. (Sp)

234. Methods of Regional Planning Analysis. (4) Four hours of lecture and discussion per week. Prerequisites: 204A, 204B, and 233. Covers regional accounting, economic base analysis, shift share techniques, input-output analysis, computer programming, regional economic models, and qualitative sectoral studies. (W)

260. Introduction to Urban Social Theory and Planning. (4) Four hours of meetings per week. Social and demographic patterns in metropolitan areas. Urban and suburban life-styles and studies of different community types. Concepts of community and diversity and their role in planning. Selected social planning issues and analytic techniques, including social indicators and social impact assessment. (W)

267. Workshop in Social Planning. (4) Formerly 262. Three hours of discussion plus 5 hours of fieldwork in alternative weeks. (Half the sessions will be in the field.) Prerequisites: 248 or equivalent, courses and experience in social planning, and social work in community settings. Prerequisites: 260 or equivalent; 204B or consent of instructor. Basic theories and methods of community economic planning. The course will examine neighborhood/community analysis as well as social change strategies. Course requires a substantial amount of fieldwork in local neighborhoods. (F or W)

251A. Urban Transportation Planning and Policy Analysis. (4) Three hours of lecture and 1 hour of discussion per week. Overview of the contemporary urban transportation planning process, historical development of the field and its current political and administrative framework; techniques for evaluating demand and cost features of multi-modal transportation services, system performance, land use and pricing strategies, and social, economic, and environmental implications of policy decisions; review of current policy dilemmas: controlling the automobile, external costs, real estate, consequences, impacts of subsidizing programs, energy issues, needs of elderly and handicapped, system management and operational strategies, effects of changing land-use patterns on travel patterns. Applications will be stressed through discussion of relevant policy issues and analysis of cases. (W)

291C. Urban and Regional Physical Infrastructure. (4) Two hours of lecture and 2 hours of seminar per week. Survey of basic knowledge and technology of physical infrastructure systems including: transportation, water supply, wastewater, stormwater, solid waste management, community energy facilities, and urban public facilities. Linkage between land use and infrastructure planning; environmental and energy impacts of infrastructure development; decentralized vs. centralized systems; case studies of physical infrastructure planning in local and regional agencies. To be offered in 1982-83 only. (F)

291D. Environmental and Social Planning. New Course

IDS 231. Environmental Simulation and Public Communication. (4) See Interdepartmental Studies for the complete description of this course.

Change in Description

295. Supervised Field Study in Landscape Architecture and Environmental Planning. (2) To be arranged. Prerequisites: graduate standing and appointment as a research assistant. Supervised experience on a research project in landscape architecture and environmental planning. Regular meetings with faculty sponsor. See departmental information sheet for other limitations. Must be taken on a satisfactory/unsatisfactory basis. (F, W, Sp)

296. Supervised Teaching in Landscape Architecture and Environmental Planning. (2) To be arranged. Prerequisites: graduate standing and appointment as a teaching assistant. Supervised teaching experience in undergraduate departmental courses. Regular meetings with faculty sponsor. See departmental information sheet for other limitations. Must be taken on a satisfactory/unsatisfactory basis. (F, W, Sp)

School of Law

Fall Semester

Instruction Begins August 23-Monday
Final Examinations December 13-23-Monday-Thursday
Fall Term Ends December 23-Thursday

Spring Semester

Instruction Begins January 10-Monday
Final Examinations May 19-21-Monday-Saturday
Spring Term Ends May 21-Saturday
College of Letters and Science

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(New) Division of Freshman and Sophomore Studies, 237 Campbell Hall, 642-3842

The Division was created in 1982 and consists of a Divisional Dean, a faculty and student advising component, and a program of freshman seminars. The Divisional Dean, as has major responsibility, the charge of development, coordination, and administration of all matters pertaining to undergraduate education at the freshman level, particularly freshmen.

Freshman Seminar Program. The Division of Freshman and Sophomore Studies has revived and strengthened a program of freshman seminars, which introduces freshman students to a field of study and to some of the important assumptions underlying it. These seminars are offered by faculty in various departments in the College and are essentially instructional, offering undergraduates intellectual, social, and moral benefits. For example, in Winter Quarter 1983, Comparative Literature 30, a freshman seminar in world literature, will be offered. This course, open only to freshmen, will consist of exploration, in seminar format, of a topic in world literature, with round-table discussions and individual assignments. This freshman seminar, and others like it in the humanities, the social sciences, and the natural sciences, will give freshmen the opportunity to work with a faculty member in a seminar setting where they can discuss important ideas in a particular field.

Advising. A system of faculty and student peer advising has been created to allow incoming students to involve freshman students in academic life and bring them into contact with faculty, staff, and fellow students as early as possible in their first term of attendance in the College. To achieve this goal, a number of faculty and undergraduate students have joined together to meet with freshmen in small groups and singly to discuss academic goals and directions and to give the entering undergraduates a sense of how a liberal arts education is compatible with our economically, demographically, and historically diverse student body.

Faculty advisers are available, primarily to discuss with undergraduates aspects of the field or program in which the faculty member knows best, to explore with the students at this point of their lives the discipline of graduate school and the kind of work involved, to help them reach the right courses of action, to give advice and encouragement, and to help students to achieve their academic and career goals.

Freshman advisers are available, primarily to discuss with the student interested in the various departments in the College's policies and regulations; this type of advising is performed by the College advising staff, and entering under­graduates may be assigned to a College adviser in order to discuss their academic program.

The freshman seminar program and the advising program are designed to bring undergraduates into close contact with scholars, scientists, and fellow students. Formal and informal meetings of faculty and student peer advisers are regularly scheduled each term, and entering freshmen are notified of the meetings well in advance of their arrival on campus. As additional information about the Division and its programs becomes available, it can be obtained from 237 Campbell Hall.

Anthropology

New Course

169A-169B. Environmental Effects Upon Human Health and Disease. (4-4) Three 1-hour lectures and one 1-hour discussion per week. Prerequisites: 1, 3 or equivalent and course in general biology or consent of instructor. Examination of major disease-related ecological constraints of diversity, and cultural responses to environmental populations to these stresses. Two quarter sequence: (W) Arctic, High altitude, Arids zones, (Sp) Grasslands, Humid tropical forests. Emphasis sequence must be completed to receive credit. (W, Sp)

Change in Description

133. Field Course in Archaelogical Method. (3) Four hours of field work and 1 hour of lecture per week. Prerequisites: 2 or consent of instructor. If student is enrolled in 133, student must be concurrently enrolled in 136. Enrollment limited to 60 students, admitted by consent of instructor. May be repeated without duplication of credit. Advanced field investigation and guidance in preparation of materials for publication.

136. History and Theory of Archaeology. (4) Three hours of lecture per week. Prerequisites: senior standing or consent of instructor. Course required for the major. A student enrolled in 133 must be concurrently enrolled in 136. Critical review of historical background and philosophical premises of past and present archaeological theory with respect to concepts of time and change. (Sp)

History of Art

History of Art

New Courses

62. Introduction to Italian Renaissance Art. (5) Four hours of lecture and 1 hour of discussion per week. In-depth study of limited number of sixteenth, seventeenth, and eighteenth century masterpieces of Italian Renaissance painting, sculpture, and architecture created in Florence, Rome, Venice, and the Italian courts. (F, W, Sp)

160A-160B-160C-160D-160E-160F-160G-160H. Italian Renaissance. (15-5-5-5) Four hours of lecture and 1 hour of discussion per week. Each course covers all media—painting, sculpture, architecture—and is organized topically: urbanization, architectural grammar, city planning, fortifications, churches, chapels, palaces, villas, altarpieces, portraits, fresco decoration, tombs, public sculpture, festival decoration, etc. The works of art are interpreted in terms of style, iconography, function, setting, patronage and cultural context. Five quarter sequence: (F) Sixteenth Century, (W) Seventeenth Century, (Sp) Eighteenth Century, (F) Nineteenth Century, (W) Twentieth Century.

182A. Modern Art: French Art, 1860-1890. (5) Four hours of lecture per week. French art, especially its avant-gardes, as they concern themselves with ideas of modern life in both the country and the city. From the beginning of Manet’s career to the death of Van Gogh. (F)

182B. Modern Art: Modernist Values, 1890-1925. (5) Four hours of lecture per week. Centering on Paris, the course will survey the avant-garde movements through the eyes of the generation of artists who are known as Modernist. Emphasis on new techniques and new conceptualization in art. (F)

182C. Modern Art: Postmodernism, 1965-1990. (5) Four hours of lecture per week. Survey of the various important movements of the last three decades, including Op-Art, Pop-Art, and Postmodernism. (W)

187A. Survey of American and British Art: 17th and 18th Centuries. (5) Four hours of lecture per week. Covers the development of British and American art from the beginning of the stucco to the Colonial and the American Revolution. (Sp)

187B. Survey of American and British Art: 19th and 20th Centuries. (5) Four hours of lecture and 1 hour of discussion per week. Covers the development of American and British art from the Civil War to the present day. (Sp)

190A. History of Art and History of Art

Biochemistry

New Course

257. Seminar on Mechanisms of Genetic Regulation in Yeast. (2) Two hours of discussion per week. Prerequisites: graduate standing in a biological field and consent of instructor. Review of current literature and discussion of original research on genes, gene products, and molecular mechanisms that control cell types in the unicellular yeast Saccharomyces cerevisiae. Must be taken on a satisfactory/unsatisfactory basis. (F, W, Sp)

Campaign Science

New Courses

1A-1, 1B-1, 1C-1. General Biology. (4 1/2-5-5) One hour assembly and 3 hours of audio-tutorial modules per week. Same laboratory schedule as 1A-1B-1C. Prerequisites: Chemistry 1A (Sem. System) or Chemistry 1A-1B (Qtr System). Chemistry 1C strongly recommended to precede 1A-1B-1C. Chemistry 1A is a prerequisite for 1B-1C. Biology 1A taken Spring 1979 or before is equivalent to Biology 1C. Biology 1A is prerequisite to Biology 1B and 1C. Intended for students majoring in biological sciences, but open to all qualified students. Self-paced audio-tutorial version of Biology 1A-1B-1C based on slide-tape modules. Credit given for topics covered in the same sequence at the same level.

230. Genetics of Bacteria. (3) Two 1-hour lectures per week. Prerequisites: Microbiology 100A-100B or Molecular Biology 200A or the equivalent or consent of instructor. Covers principles in the genetics of bacteria with emphasis on plasmids, recombination, and molecular aspects of gene function. Related course on the genetics of yeast is planned for alternate years. (W)

301. Undergraduate Biology Instruction. (2) One hour of lecture and 3 hours of laboratory per week. Prerequisites: junior standing, completion of 1A-1B-1C or equivalent with grade of B or better. Tutoring students in 1A-1B-1C during the audio-tutorial sessions. Students will attend a weekly meeting on tutoring methods at Student Learning Center. May be repeated to a maximum of 8 credits. Must be taken on a passed/not passed basis only. (F, W, Sp)

Biophysics and Medical Physics

New Courses

224. Mathematical Modeling of Biological Systems. (4) Three hours of lecture per week. Prerequisites: calculus and differential equations. Biology 1A-1B-1C, or consent of instructor. The art of rendering essential features of biological systems in mathematical language. Topics: morphogenesis at the cell and tissue level, circadian rhythms, biomechanics and evolution. Other topics: as interest. Emphasis on probabilistically realistic models. (F)

280. Topics in Mathematical Biology. (1-3) One to 3 hours of seminar per week. Topics according to student interest: biorthymics, biomechanics, population and evolution biology, morphogenesis, etc. (F, W, Sp)

Botany

New Courses

122. Palynology and Plant Evolution. (4) Two 1 1/2-hour lectures and one 1-hour laboratory per week. Prerequisites: 1 or Paleontology 120. Morphology and systematic use of spores and pollen grains; the fossil spore-pollen record in relation to the plant megafossil record, origin and evolution of plant groups and vegetation types, paleoclimatology, and stratigraphy. (F)

26. Chocolate. (2) Two 1-hour lectures and one 1-hour discussion or field trip per week. The historical and botan-
the need to accumulate information about academic performance at Berkeley, essentially prohibit admission to the economics major. Plan B: Economics 100C is no longer offered by the Department of Economics. Therefore, any student transferring from Plan A to Plan B must take for the upper division, general education Economics 102, 104, 108, or 136 in addition to the 100A-100B sequence.

Pre-law Program. Those students intending to do graduate work in business administration may major in economics under either Plan A or Plan B. The following courses are strongly recommended as electives for such students:

1. Business Administration 175, 170, and 120.
2. Mathematics 1A-1B or 16A-16B.
3. Courses in statistics, accounting, and computer science.

Departmental Honors. Students should refer to the Economics Major’s Handbook and check with the under-graduate office for possible changes in the 1982-83 honors program.

New Courses

255A-255B, Urban Economics. (4-4) Three hours of lecture per week. Prerequisites: 213A or consent of instructor. This is a prerequisite to 255A. Admission to 255A is granted to students who have completed 155 or 255A, or the equivalent. Application of economics methodology to study of activity and residence in cities. 255A covers the historical pattern of urban and regional development in the U.S. and static and dynamic location theory. 255B covers sectoral problems including housing, transportation, government, production, systems, and public policy.

256. Seminar in Urban Economics. (4) Two hours of seminar per week. Prerequisite: consent of instructor. May be repeated for credit.

301, Teaching Assistants’ Practicum. (1-6) Prerequisite: appointment as a teaching assistant in teaching assistant in the department and permission of the graduate advisor. Course credit for experience gained in academic teaching through employment as a teaching assistant or teaching assistant in a course taken on a satisfactory/unsatisfactory basis. (F, W, Sp)

New Course

209, Graduate Seminar in Poetry and Writing. (5) Two 2-hour seminars/discussions per week. Prerequisites: enrollment in Ph.D. program in English and consent of instructor, normally based on submission of previous writing. (Sp)

English

New Course

207. Seminar in the Teaching of English. (3-6) Prerequisite: 40; or consent of instructor. Designed for graduate students who are teaching English composition at the upper-division or lower-division level. Students will be required to develop and conduct at least one unit of instruction for an actual class, which will be supervised by the instructor.

French

Page 145 (column one)

The Major

Option A (Literature): One course from French 102, followed by one course from French 103A-103B or 103F or the equivalent.

Option B (Civilization): One course from French 103F, followed by one course from French 103D-103E or 103F or the equivalent. Courses 140 and 145 do not count for the French major.

Graduate Study

M.A. Program, French 270 (Literary Criticism) is required of all first-year candidates for the Master’s degree. One course from French 201A-201B (Historical grammar) must be completed during the first two years of graduate study.

New Courses

102. Writing Skills in French. (4) Three class hours per week. Prerequisite: 6 (with grade of B or better) or 46. graduate students must pass placement exam or take 46 before enrolling in 102. The principles and practice of expostitory writing: development of correct and effective expression in French. This course is prerequisite to 103. (F, W, Sp)

H195A-H195B, Honors Course. (2-4, 2-4) Prerequisites: overall GPA of 3.3 and GPA in French major of 3.3. Open to seniors with consent of major advisor. Students will write an essay on a topic relating to French literature or culture under the supervision of a member of a faculty, during two consecutive quarters of the senior year. Credit and grade awarded on completion of the sequence.
302A-302B-302C. Teaching French in College. (2-2-2) Prerequisite: for graduate students teaching second-year French at the college level. Lectures on methodology, grading and testing, occasional attendance at demonstration classes; language laboratory observation; supervised classroom practice. Must be taken on a satisfactory/unsatisfactory basis.

Change in Description

46. Composition and Grammar Review. (4) Three hours of lecture per week. Prerequisite: French 101. Students with an A or B in 6 may proceed directly to 102; those with a lower grade intending to major in French must take this course. Junior transfer students intending to major in French, who fail the validation examination, must take this course before proceeding to the upper division. (F)

103A-103B-103C-103D-103E-103F. Language and Culture. (4-4-4-4-4-4) Three class hours per week. Prerequisite: Discussion and composition based on the analysis of selected texts. 103A-103B-103C have a literary orientation. 103D-103E-103F pursue the aims of the course through another kind of written text: historical, political, artistic, cinematographic. 103A: Prose fiction; 103B: Poetry; 103C: Drama; 103D: French Cultural History; 103E: Contemporary French; 103F: Cinema. (F, W, Sp)

140. Readings in French Literature. (4) Three hours of lecture per week. Readings in French, class discussions and exercises written in English. Topics will vary from year to year. Does not count toward the French major. (201A-201B. History of the French Language. (5-5) Three hours of lecture per week. French 201A: External history of the French language. The evolution of French from Roman to modern times, linking broad developments in the language to movements of a social, political, and literary nature. French 201B: Historical Grammar. An introduction to the methodology of historical linguistics, focusing on the development of the sound system and grammar of French from the beginnings through contemporary speech. One quarter from the sequence required for all graduate students.

Change in Prerequisite


Geography

New Courses

90. Seminars for Lower Division Students. (4) One 1-hour meeting per week. Prerequisite: consent of instructor. Seminars in various fields of geography designed to introduce beginning undergraduates to specific topics and applications of geography. Limited to 15 students per section. For precise offerings see department catalog during pre-enrollment week each quarter.

133. Islands and Oceans. (4) Three hours of lecture per week. Physical and human geography of the sea. Ocean and island environments and ecology; ocean voyages and settlement of islands; cultural adaptations by seafaring societies; marine resources and environmental issues. (Sp)

138. Geography of Food and Famine. (3) Two 2½-hour lectures per week. Production, distribution and consumption of food. Patterns of nutrition and culture, as well as national and international policies, energy constraints and future food needs.

Geology and Geophysics

New Courses

108. Physics of Earth Materials. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisites: Math 50A-50B-50C and Physics 54A-54B-54C. Physical properties of earth materials under the conditions encountered in earth's interior; the mechanisms which give rise to these properties; and implications to the interpretation of geologic and geophysical observations. (F)

196. Special Topics in Geology. (3) Formerly 198. Group study of a geologic topic not included in the regular department curriculum. (W)

German

New Courses

45. Freshman Seminar. (3) Three hours of seminar per week. Prerequisite: consent of instructor. Limited enrollment. All readings are in English. Variable topic. 1982-93 topics: 45A: Marx, Nietzsche, and Freud. Their role in developing new conceptions of the individual and consciousness. (W) 45B. Contemporary German Literature and Society. Focus on post-war literary and sociocultural developments. (Sp)

131. Drama and Dramaturgy. (4) Three hours of lecture per week. Examines the interaction of German drama, theater, and criticism since the late 18th century. The Comparative analysis of various stage presentations will include small stagings in the class. (W)

138. The "Kunstmaechnen" and Fantastic Literature. (4) Three hours of lecture per week. Various fairy stories by 19th century authors (such as Goethe, Tieck, E.T.A. Hoffmann, Hoffmannsthal, among others) will be studied. (W)

146. German Authors of the Twentieth Century. (4) Formerly 146, 147, 148, and 149. Three hours of lecture per week. May be repeated for credit when topic changes. Previous topics have included Kafka, T. Mann, Hesse, and Brecht. 1982-93 topics: 146A: T. Mann, Kafka, Hesse. (F) 146B: Studies in the works of Kafka. (W) 146C: T. Mann (Sp)

152. Feminist Approaches to German Literature. (4) 1982-83 topic: Shrews, Hags, Hoydens—Women as social deviants in 16th century German literature. 257A-257B. German Novel of the Twentieth Century. (4-4) Three hours of seminar per week. 257A. Early Twentieth Century Novel. (F) 257B. Mid-Century Novel and Contemporary Works. (W)

260. Seminar in German Literature. (4) Two to 3 hours of seminar per week. May be repeated for credit when topic changes. 1982-83 topics: 260A. B. Brecht (F) 260B. Studies in Goethe's Poetry. (W) 260C. Theory of Film. (W) 260D. Nietzsche. (Sp) 260E. History and Issues of Literary Canon. (Sp) 260F. Post-Structuralism in Literary History. (W) 260G. Hölderlin. (Sp)

Change in Description

134. Studies in German Poetry. (3) Three hours of lecture per week. Topic varies from year to year. May be repeated for credit when topic changes. 1982-83 topic: 19th to 20th Century Poetry. (F)

157. Psychological Approaches to German Literature. (4) Three hours of meetings/discussion per week. 1982 topic: 19th Century Narratives. (W)

160. Issues and Problems in German Literary and Cultural History. (4) Three hours of lecture and one 1 to 2-hour discussion session per week. May be repeated for credit when topic changes. 1982-83 topics: 160A. Brecht and the Political Theater. (F) 160B. The New German Cinema. (Sp) 1985A-H195B. Honors Seminar for Undergraduates. (4-4) Three hours of seminar per week. Prerequisites: 3.5 GPA in at least 20 units of upper division German. 3.3 overall GPA. Open normally to students participating in the Honors program, however, if enrollment warrants and instructor consents, other students may be admitted. Topics vary from year to year. Topics for 1982-93. H195A. Medieval Social Commentary. (F) H195B. Romanticism. (W)

290. Advanced Study in German Linguistics. (3) Three hours of seminar per week. May be repeated for credit when topic changes. 1982 topic: 290C. Early New High German. (W)

History

New Courses

113. Ancient Athenian Law. (5) Three hours of lecture and 1 hour of discussion per week. Concentrates on the courts and procedural law in their historical development. Some attention will be given to distinctive features of Athenian law in comparison with other systems. (F)

155. Canada, 1604 to the Present. (5) Three 1-hour lectures and 1 hour of discussion per week. Survey of Canadian history from exploration and first settlement through colonial times to Confederation and nationhood to the present. (F)

179. Demographic History of the United States. (5) Three 1-hour meetings per week. Prerequisite: consent of instructor. A lower division seminar. Significant texts will be analyzed in the context of European political theories in their evolution from feudalism to parliamentary democracies (from Machiavelli's The Prince to Lampedusa's The Leopard). Limited to 15 students.

Italian

New Course

80. Princes, Servants, Citizens (in English). (4) Three 1-hour meetings per week. Prerequisite: consent of instructor. A lower division seminar. Significant texts will be analyzed in the context of European political theories in their evolution from feudalism to parliamentary democracies (from Machiavelli's The Prince to Lampedusa's The Leopard). Limited to 15 students.

Latin American Studies

New Course

209. Field Methods. (5) Three hours of seminar per week. Prerequisite: consent of instructor. Field methods and techniques, emphasizing Latin America as area of research. Proposal writing, research design, ethical considerations, interview questioning, participant observation, quantitative methods, analysis, and write-up of field data. Supervised field exercises. (F)

Legal Studies

Page 162 (first column)

Lower Division requirements: fulfillment of these requirements is prerequisite for admission into the major.

Upper Division requirements: no more than three law courses offered by other departments may be used to fulfill the 50 units of upper division coursework.

New law-related courses fulfilling upper division requirements.

Social and Political Environment of Business (Business Administration 170)

Business, Government, and Law in the American Political Economy (Business Administration 171)

Business in its Historical Environment (Business Administration 172)

Legal Environment of Business (Business Administration 175)

Public Advocacy (Field Studies 1965-1965)

Criminal Justice (Field Studies 1966-1966)

Legal Aspects of the News Media (Journalism 165)

Regulation and Compliance (Public Policy 183)

Introduction to Rhetoric of Legal Discourse (Rhetoric 161)

Rhetoric of Legal Proof (Rhetoric 162)
New Courses

103. Theories of Law and Society. (4) Three 1-hour lectures and 1 discussion section per week. Major social and historical aspects of the laws of origin, function, and change. Emphasis on 19th and 20th century jurisprudence and social thought, e.g., Bentham to the Maine, Marx, Durkheim, Weber, Maclver, Pound, Llewellyn, Fuller. Gluckman. The course will make use of a book of readings prepared by the instructor. It will include relevant excerpts from the work of the above-named and other classical theorists in this area. (F)

104. Privacy, Morality and the Law. (4) Three hours of lecture and 1 hour of discussion per week. Examines alternative moral accounts of the importance of privacy and the social implications of these accounts in various contexts, including (1) undercover police work, (2) undercover journalistic work, (3) intimacy as a basis for testimonial privileges, and (4) family law and social policy concerning families. (F)

106. Legal Reasoning and the Concept of Argument. (Two 1-hour lectures and 1 hourly discussion section per week. Explores ways in which formal traditions of legal reasoning rely on and modify similar patterns of thought and methodologies from other disciplines. It emphasizes the functional and institutional differences shaping the distinctive characteristics of legal reasoning. (F)

131. Law and the Urban Environment: Historical Perspectives. (4) Three hours of lecture and 1 hour of discussion per week. History of law and government in American cities from the colonial period to the present, concentrating on the development of law in problems associated with urban life to needs created by economic, population, and geographic change. (F)

143. The Law and Energy and the Environment. (4) Two 1 1/2-hour meetings per week. Basic framework administrative law and public utility law and regulation. New regulation dealing with financing major facilities, solar and conservation. The nuclear power industry and non-proliferation, Statistical Abstract of Environmental Law. Subsidies and incentives in environmental law. (F)

147. Regulation and the Public Sector. (4) Three hours of seminar per week. Government uses many mechanisms to influence the provision of goods and services. Economists and lawyers have developed a critical of these mechanisms which has prompted substantial reforms in recent years, e.g., deregulation in transportation. This course discusses this critique. (F)


158. War, Punishment, and Moral Responsibility. (4) Two 1 1/2-hour lectures per week. Modes of legal, moral, and philosophical reasoning employed in punishment. Analysis of texts from law, philosophy, sociology, psychology, and behavioral science. Examination of traditional institutions of punishment and analysis of the definition and punishment of war-crimes. (F)

166. Youth Crime, Law, and Social Policy. (4) Three hours of lecture and 1 hour of discussion per week. Analysis of the development of laws and institutions to prevent and control delinquency, links between juvenile and other crimes, social and physical welfare, and mental health systems; the future of police, court, corrections, and community efforts in this field. (F)

169. The Legal Profession. (4) Two 1 1/2-hour lectures per week. Examines the organisation of the American legal profession and the principal rules governing it; main focus is on recent proposals for reform and their practical and philosophical background. (F)

174. The Law in Soviet Society. (4) Three hours of lecture and 1 hour of discussion per week. This course surveys the fundamental characteristics of the Soviet legal system. Topics include: interaction of Soviet law and Communist doctrine; the fusion of the principles of Soviet law, criminal law, torts, contracts, family law, relations between Soviet and Anglo-American legal institutions. (F)

182. Law, Politics, and Society. (4) Two 1 1/2-hour lectures and 1 discussion section per week. Main focus is on new and practical trends in legal institutions in performing major functions of law: allocating authority, defining relationships, resolving conflict, adapting to social change, and fostering social solidarity as

Mass Communications

New Course

197C. Field Studies in Media and Society. (5) One 3-hour seminar and 10-12 hours of field laboratory per week. Analysis of contemporary media in terms of access, social organization, and impact. Seminar topics: audience, objectivity, ownership and control, content and context, media and public policy, cultural and psycho-socialization advertising. Field placements: national and local news magazines; television and radio stations; newspapers. Pre-enrollment essential. Course limited to 20 students (Sp)

Mathematics

Page 166 (column one)

Major in Applied Mathematics

104A, 185, 113A, 112; at least one course from 128A, 128B; at least one course from 104B, 105, 120C; three additional upper division courses, approved by a major adviser, which make a coherent cluster in some applied direction. The following clusters illustrate the wide variety of possibilities, but many more are possible:

Numerical Analysis: Math 123, 126, 128B.

Computer Science: Math 128B and any two of Computer Science 163, 164, 167, 169.


Systems Theory: Electrical Engineering 104AB, and 119 or 123.


Fluid Mechanics: Math 128B, Mechanical Engineering 151 and 162.

Quantum Mechanics: Math 126, Physics 137ABC (prerequisite: Mathematics 111AB).

Geophysics: Math 126, Geophysics 104AB, 122A.

Economics: Economics 101AB, 104.

Middle Eastern Studies

(New Group Major) Page 172

Group Major Office, Division of Special Programs, 301 Campbell Hall, 642-2626

The interdisciplinary major in Middle Eastern Studies offers an opportunity to study a region of historic and cultural importance whose current development is bound up with the political, economic, and cultural development of the contemporary world. It encompasses the Arab world, Turkey, Iran, and Israel. This program is designed to allow students to pursue a broad and balanced course of study which will familiarize them with the languages, cultures, and history of the region, its basic geographic, demographic, and ethnographic character, and with the course of recent political, economic, social, and cultural change. The program draws on over 200 Middle East-related courses available in 15 different departments of the University.

The program is under the supervision of an interdepartmental committee of faculty members organized through the Center for Middle Eastern Studies of the Institute of International Students. Students will be assisted in planning their programs by a faculty committee representing several academic departments and by a major adviser who will help to define courses of study which suit individual needs. Professor William M. Brinner of the Department of Middle Eastern Studies (1229D Dwinelle Hall, 642-3775) serves as major adviser.

Major Program

I. Lower Division

A. Required Introductory Course, Near Eastern 104A-104B - A survey introducing the fundamentals of Middle Eastern history, culture, geography, and ethnicity, and current political, political and developmental problems. Taught by faculty from the several departments contributing to this program, the two-semester sequence is a prerequisite for upper division lecture courses.

B. Language - Students are required to take two years of a Middle Eastern language: Arabic, Hebrew, Persian, or Turkish. (In the case of Arabic and Hebrew, this will entail 30
lower division units; in the case of Persian and Turkish, 15 lower division and 13 upper division units.)

II. Upper Division Survey Program

Students will choose one course in each of the following three groups, so as to provide a broad introduction to the geography and ethnography of the Middle East, its history and cultures, and current political, economic, and social development.

A. Anthropology 165, The Near East
B. History 182A-182B, Islamic History
C. Political Science 142C, Government and Politics in the Middle East

Sociology 167, Modern Social Structure in the Near East

Economics 120, Case Studies in Economic Development

III. Concentration

In addition to the interdisciplinary survey, the student will pursue advanced studies, focusing on a particular region, discipline, and/or methodology, according to the Middle Eastern region. The program of advanced and more specialized study may be flexibly designed in consultation with the adviser to meet the interest of students and to create a coherent and integrated perspective on some aspect of Middle Eastern affairs. Courses in this program may be selected from any of the courses in the cateogories:

Courses in Middle Eastern Studies, available from the Center for Middle Eastern Studies, 207 Moses Hall, or in the Division of Special Programs, 301 Campbell Hall. The courses should be selected with a view toward developing a knowledge in depth of a particular aspect of the subject.

Specialized fields of study may include advanced language study, religious and cultural studies, history, contemporary trends in economic development and social change, urbanization, national building, the impact of imperialism and colonialism in the Middle East, or any topic agreed upon between the student and the adviser. The student will take a minimum of four courses to meet the requirements of this part of the program. The courses selected may not overlap the survey courses above. The following sample programs are given purely illustrative purposes and do not indicate any requirements for the program.

Culture and Language
Advanced Arabic, Hebrew, Persian, or Turkish (beyond two years)
Comparative Literature 120, Hebrew Literature
Near Eastern Studies 140A-140B, Islamic Art
History 193A-193B, The Middle East
Middle East Religions
History 193A-193B, Islamic History
Near Eastern Studies 180A-180B, Islamic Institutions
Near Eastern Studies 151A-151B, Aspects of Biblical Religion
Near Eastern Studies 154A-154B, Judaism in Late Antiquity
Near Eastern Studies 160A-160B, Islam in Iran
Economic Development and Social Change
Geography 101, Principles of Cultural Geography: Culture and Urban Environments
Geography 104, The City in the Third World
Geography 107, Religious Geography
Sociology 167, Modern Social Structure in the Near East
Political Science 142A-142B-142C, Politics and Government in the Middle East

V. Senior Paper or Proseminar

Each major in the program will participate in a tutorial or proseminar with a faculty member of the program to do a research paper on a topic within the Middle Eastern area. This course will be credited as a 199 class in the department of the supervising faculty member.

VI. Honors Program

Senior students with a grade point average of 3.3 in the courses of the major and in all work completed in the University will be eligible for an honors degree. The honors program will require, in addition to the normal requirements for the major, the preparation of a thesis based upon the senior paper and further research in Middle Eastern Studies (NES H195-five units). The thesis will be supervised by a member of the faculty appropriate to the student's interest and will be approved by the committee of advisors for the program.

VII. Units

The program requires a minimum of 45 and a maximum of 54 upper division units.

Biology

New Course
IDS 205. Topics in Embryology. (2) See Interdepartmental Studies for the complete description of this course.

Music

New Course

Music Analysis of Study may include advanced study of Western music, or in the Near East.

Near Eastern Studies

New Course
39. Seminar for Lower Division Students. (5) One 8-hour meeting per week. Prerequisite: consent of instructor.

Near Eastern Studies 157 . The Modern Japanese Short Story. (4) Three one-hour meetings per week. Prerequisites: 100B-100C or consent of instructor. Reading and analysis of selected post-1945 Japanese short stories and comparison with Latin American short stories in English translation.

251. Seminar in the Theory and Practice of Naturalism in Japan. (4) One 2-hour meeting per week. Prerequisite: 159 or equivalent. Focuses on several major Japanese naturalist writers and examines them from the point of view of their relation to the theory of their work, and with particular attention given to French and German influence and models.

Change in Description


Korean

New Course
10A-10B-10C. Intermediate Korean. (5-5-5) Five 2-hour meetings per week. Prerequisites: 100A, 100B, and 100C. Analysis of World Agriculture.

Tibetan

New Course
1A-1B. Elementary Spoken Tibetan. (5-5-5) Five 2-hour meetings per week. Introduction to standard Central Tibetan (Ihasa dialect).

Paleontology

New Courses
198. Directed Group Study and Research. (1-5) Must be taken on a passed/not passed basis. (F, W, Sp)

248. Directed Research Preparation. (1-8) Prerequisites: graduate standing and consent of instructor. Directed guidance in design of research.

296. Directed Thesis Research. (1-8) Open to qualified graduate students working on Master's Thesis Research. Must be taken on a satisfactory/unsatisfactory basis. May be repeated for credit.

296. Directed Dissertation Research. (1-9) Prerequisite: admission to doctoral degree program in paleontology; open to qualified students who are engaged directly in the doctoral dissertation. Must be taken on a satisfactory/unsatisfactory basis.

Change in Description

2. Topics in Paleontology. (2) Two 1-hour lectures per week. Open without prerequisite to all students and designed for those not specializing in paleontology. May be repeated for credit without consent of instructor. (F, W, Sp)

2A. Ecology and Evolution of Dinosaurs.

2B. Mass Extinctions.

2C. Ancient Landscapes.
Education

Philosophy

Page 185 (column two)

Upper Division.
The student must take one course from the 160-179 series and one additional course either from the 160-179 series or from the 181-190 series.

New Courses

90. Freshmen Seminar. (4) One 3-hour session per week. Study of various fields of philosophy of special interest to freshmen. Restricted to 15 students per seminar. Topics vary from quarter to quarter and will be individually announced.

191F. Ethics and Business. (4) Three hours of lecture per week. Prerequisite: 2 or 104 or Business Administration 111 or consent of instructor. Ethical issues connected with private property, profit (and loss) taking, inheritance, government redistribution of wealth, discrimination (direct and reverse) in employment; and corporate responsibilities. (Sp)

Physical Education

New Courses

405. Exercise Stress Testing Techniques. (1-3) One hour of discussion and one 3-hour laboratory per week for each unit. Prerequisite: 105A or consent of instructor. Theory and practice of exercise stress testing and prescription. Techniques include: pulmonary function testing, body composition analysis, recording of ECG, determination of blood pressure, treadmill and bicycle ergometer testing, maximal oxygen consumption determination, data interpretation and exercise prescription. (F, W, Sp)

600. Teaching in Laboratory/Discussion Sections. (1-6) Hours to be arranged. Open only to graduate students. (F, W, Sp)

600A. History of Physical Education and Sport. (F, W, Sp)

600B. Kinesiology (W)

600C. Motor Development. (F)

600D. Physiological Hygiene. (F, W)

600E. Psychological Bases of Physical Activity. (W)

600F. Socio-Cultural Bases of Human Movement. (F, W, Sp)

605. Research Assisting. (1-6) Hours to be arranged. (F, W, Sp)

Physics

New Course

39. Lower Division Physics Seminar. (2) Two hours of lecture per week. Designed for both non-major students and those students considering a major in physics. Topics vary from quarter to quarter. See Department of Physics announcement. Must be taken on a pass/Not pass basis.

Physiology-Anatomy

New Course

214. Intracellular Signaling. (2) Two 1-hour seminars per week. Prerequisite: 101 or consent of instructor. Examination of the mechanism by which one part of a cell can tell another what to do: change in membrane potential and ion fluxes, pH, free calcium, cyclic nucleotides, protein phosphorylation, lipid pathways. Must be taken on a satisfactory/unsatisfactory basis. (W)

Political Science

New Courses

109A-109B. Women and American Politics. (5-5) Three 1-hour lectures and 1 hour of discussion per week. 191 considers the impact "the woman question" had on traditional social and political theory. Analysis of the theory of the contemporary women's movement focusing primarily on American politics. 191G traces the political history of American women, focusing on the strategy and tactics of the women's political groups and the relationships between various stages of the women's movement and major political events. Not open to students who previously took 191F. (W, F)

148C. Research Seminar on Latin American Politics. (5) One three-hour meeting and 1 scheduled individual conference each week. Prerequisite: 146A or 146B or consent of instructor. Intensive reading and discussion on selected topics in Latin American Politics. Research paper required. (F, W, Sp)

179. Undergraduate Colloquium on Political Issues. (1) One hour of lecture per week. Political issues facing states of California, United States, or international community. May be taken on a pass/Not pass basis and can be repeated for credit with change in topic in the faculty sponsor. (F, W, Sp)

190. Senior Seminar. (5) Four hours of seminar per week. Prerequisite: consent of instructor. Discussion of major topics relevant to current issues in the field of political science. (Sp)

191E. American Development. (5) Three 1-hour lectures and 1 hour of discussion per week. Exposure to a wide range of conceptual approaches on political change in America. Approaches used have been drawn from modern comparative politics, economics, political sociology, and social history. Each lecture deals with a specific issue in American political development and offers several conceptual approaches for comparative analysis. To be under the direction of the faculty sponsor. (F, W, Sp)

191I. Political Theory of Urbanization. (5) Two 1 1/2-hour lectures and 1 hour of discussion per week. Prerequisite: consent of instructor. Use of political theory to study urban life, and the use of urban life as a way to understand politics. (Sp)

191M. Contemporary Mexican Development. (5) Two 1 1/2-hour lectures and 1 hour of discussion per week. Mexico introduced historically and studied in light of theoretical debates about dependence, development, authoritarianism, and democracy. Emphasis given to political institutions, political participation, and to state intervention in the economy. Consideration will also be given to classes and social groups in the society as well as to characteristics of the political regime. (W)

191S. Cal-in-the-Capital. (3) One 2-hour seminar and a 1-hour individual conference per week. Provides prospective interns with opportunity to gain understanding of issues facing our national government. Stimulates internship experience by giving students opportunity to work with Berkeley experts who will make demands of their research skills. Enrollment limited to students participating in the Summer Cal-in-the-Capital program in Washington, D.C. Must be taken on a pass/Not Pass basis. To be offered 1982-83 only. (Sp)

191U. Model United Nations. (3) Formerly 191G. One 2-hour weekly seminar and a Model United Nations Conference, and consent of instructor. United Nations structure and procedures; foreign policy concerns of individual countries and regimes; world and region history. To be offered 1982-83 only. (Sp)

191W. Women and Politics in Cross-Cultural Perspective. (5) Three 1-hour lectures and 1 hour of discussion per week. Inequality of women as manifested in societies of diverse cultures, political structures, and modes of economic organization. To be offered 1982-83 only. (Sp)

205A. The Nation-Building Process. (4) One 2-hour seminar per week. The nation-state is the most significant political unit in the contemporary world. Course focuses on its origins, essential characteristics, different patterns of national development, relation of national development to modernization, the role of internal and external factors in the national development process and current challenges to the national state. Definition of nationalism. To be offered 1982-83 only. (W)

205B. Problems of Generation Succession. (4) One 2-hour seminar and one 1-hour conference per week. Analysis and comparative study of the relationship and conflicts between generations, with implications for national integration and preservation of ethnic identities. Exploration of different political and historical experience of children and how they affect policies to politics. (W)

Change in Description

103. Congress. (5) Three hours of lecture and 1-1/2 hours of discussion per week. Prerequisites: 101 and 3. Nomination and election, constituent relations, the formal and informal structures of both houses, relations with the executive branch, policy formation, and lobbying. (W)

153A-153B. Comparative and Historical Approaches to Legal Institutions. (5-5) Three hours of lecture and 1 hour of discussion per week. Development and agencies of legal growth since primitive times and the interactions between law and government. Early legal institutions of national states and their influence on modern legal systems. Two seminar sequence courses with in-progress grading for 1982-83 only. (W, Sp)

228A-228B. American National Security Policy. (4-4) One 2-hour seminar per week. Prerequisite: 228A is a prerequisite for 228B. 228A: Historical evolution of national security policy, processes involved in policy making, the role of Congress and the Executive, deterrence and strategic stability, arms racing and arms control, the use of military force in a nuclear environment, and future challenges to American national security. 228B: Strategic concepts, theories of national security, and the relationship of conflict-theory to policy planning and national action. Special, but not exclusive, emphasis on United States data and policy problems. (W, Sp)

Population Studies

New Course

100L. World Population Problems Discussion Section. (1) One 1-hour meeting per week. Optional weekly discussion meetings for Population Studies 100.

Psychology

Page 201 (column two)

Social Science: Two courses from among the following: Psychology 3, Linguistics 20 or Anthropology 4, Sociology 1.


New Courses

48. Psychology Seminars for Lower Division Students. (3-5) Three units: one 2-hour seminar per week; Five units: one 3-hour seminar per week and individual conferences. Prerequisite: 1 or consent of instructor. Seminars in various fields of psychology designed to introduce beginning students to basic methods, concepts, and issues in psychology. Work in the seminars will include readings in primary and secondary sources.

191M. Survey of Mathematical Psychology. (4) Two 1-hour seminars per week. Emphasis on use of mathematics to solve psychological problems. Topics will include measurement, theory, scoring, model-testing, and measurement. (W)

191R. Psychology of Sex Roles. (4) Two 1 1/2-hour lectures and 1 hour of discussion per week. Prerequisite: 1 or consent of instructor. Examination of various factors in the
development of feminine and masculine roles, including personality, social processes, biology, and cross-cultural comparisons. (Sp)

H195A-H195B. Special Study for Honors Candidates. (1-5) 1-hour to be arranged. Prerequisites: 1-4. Independent study on a topic in psychology under the supervision of a faculty member. Credit and grade awarded upon successful completion of the two-quarter sequence. May be repeated for up to 10 units total. (F, W, Sp)

205A-205B. Data Analysis. (3-5) Two hours of lecture per week in Winter and 4 hours of lecture per week in Spring. Also includes laboratory section per week, each quarter with a teaching assistant. Students will need to work through problems (homework). A general data analytic course that introduces students to areas and problems from pure experimental research through field studies. Techniques of ANOVA and multiple regression/correlation represented in analytical models for both lab and field research. (W, Sp)

208A. Measurement of Individual Differences. (5) Three 1 1/2-hour lectures per week. Introduction to classical true score theory and to measurement theory. Emphasis on developing various concepts of reliability of measurement and assessment of validity through alternative criteria and item analysis. Special attention will be paid to the consequences of true score theory such as attenuation of correlation due to unreliability and restriction of range. Each 125A, an equivalent course, or Psychology 208B will be offered in alternate years.

208B. Modern Mental Test Theory. (5) Three 1 1/2-hour lectures per week. Prerequisite: 208A or Education 208A. Development of the modern response to the theory and practice of standard models such as the normal ogive, logistic, etc. Laisference's latent ideal class models, special topics in true theory will be considered. Either Education 208B, an equivalent course, or Psychology 208B will be offered in alternate years.

208C. Psychological Scaling. (5) Three 1 1/2-hour lectures per week. Introduction to procedures whereby stimuli of various sorts can be measured with respect to psychological continua such as loudness, social desirability, etc. Thurstone's log unit scale, basic concepts of comparison proportion and common factors. Recent advances in methods appropriate for different purposes such as evaluating judgment and response functions will be addressed. Multi-dimensional scaling introduced. Either Education 208C or Education 208C will be offered in alternate years.

208D. Factor Analysis. (5) Three 1 1/2-hour lectures per week. Introduction to factors and component analysis and to Guttman's Image Analysis. Rotation and transformation problems dealt with in detail. Questions relevant to fitting the factor analytic model via statistical procedures. Problems of inferential issues in factor and related procedures. Recent advances in methods appropriate for the development of judgment and response functions will be addressed. Either Education 208D or Education 208D will be offered every year.

208E. Test Construction. (5) Three 1 1/2-hour lectures per week. Prerequisites: 208B or Education 208B. Education 208D or Education 208D recommended. Practical issues in development and scoring, evaluation of procedures, assessing individual traits and measuring attainment or mastery in educational or psychological contexts. Questionnaire development as well as more traditional areas of test development. Likert Scales and usual form of item construction as dichotomous pass-fail or agree-disagree elements in a test. Items and test calibration procedures based on item response theory. Either Education 208E or Education 208E, or an equivalent course will be offered in alternate years.

208G. Introduction to Linear Models. (5) Two 1 1/2-hour lectures per week. Introduction to regression, correlation, and related topics (e.g., use of dummy coding, trend analysis, relations to factor analysis and analysis of variance of experimental design). Introduction to path analysis and linear structural equations models. (F)

208F. Mathematical Psychology. (5) Two 1 1/2-hour lectures per week. Use of mathematical models to help answer psychological questions. Algebraic models (information integration, the lens model), issues in scaling (undimensional, stochastic models (Markov models of learning), judgment and preference models, clinical judgment, statistical judgment, signal detection theory, contextual effects), and other areas of mathematical psychology. (F)

250A. Overview. (5) Two 2-hour lectures per week. Introductory perspectives and research programs of the personality faculty to graduate students with an interest in this field. Each week, attention is directed to the work of a different faculty member associated with the personality program. (F)

250B. Personality Development. (5) Two 2-hour lectures per week. Development of personality: 1) development of gender roles; 2) sex-differentiated socialization patterns at

Rhetoric

New Courses

120. The Lyric Voice in Western Poetic Tradition. (5) Four to 4 1/4 hours of lecture/discussion per week. Prerequisite: upper division standing, 30 or 32A recommended. Rhetorical approach to the scope and variety of typical lyric voices from Archilochus and Sappho to the present. (Sp)

125. The Rhetoric of Modern Poetry. (5) Three to 4 1/4 hours of lecture per week. Prerequisite: upper division standing, 30 or 32A recommended. Rhetorical approach to the scope and variety of typical lyric voices from Archilochus and Sappho to the present. (Sp)

160. Introduction to the Rhetoric of Legal Discourse. (5) Formerly 161. Four to 4 1/4 hours of lecture per week. Prerequisite: 30. Application of rhetorical methodology to legal texts. Variety of materials used to explore ways in which analysis can be applied to all categories of legal discourse.

161. Rhetoric of Legal Argumentation. (5) Formerly 4 to 4 1/4 hours of lecture per week. Prerequisite: 30. Analyzes special function of rules and values in legal argumentation. Emphasis placed on interplay of interpretation and policy in the definition of social values through legal persuasion.

162. Rhetoric of Legal Proof. (5) Four to 4 1/4 hours of lecture per week. Prerequisite: 30. Examines development and contemporary practice of persuasive strategies aimed at establishing the factual basis for legal decision. Special attention given between probability, credibility, and argumentation in the process of presenting evidence.

165. Rhetoric of Legal Philosophy. (5) Formerly 169. Four to 4 1/4 hours of lecture per week. Prerequisite: 30. Considers basic philosophical issues related to political and moral foundations of the law.

166. Rhetoric, Law, and Politics in Ancient Greece. (5) Formerly 166. Four to 4 1/4 hours of lecture per week. Prerequisite: 30. Deals with rhetoric of legal thought and political institutions in the early Greek period. Development of the legal profession and to relationship between legal and political thought.

234A-235B. Advanced Narrative Analysis. (1-5) 4-4 1/4 hours of discussion per week. Modern theories of text structure; structuralist, semiotic, text-linguistic, affective-stylistic, and other Anglo-American and Continental developments. Narratives will generally be used as models for other kinds of texts. Grade given on completion of sequence.

301. Teaching Practice. (5) May be repeated for credit so long as prerequisites are met. Prerequisite: graduate standing, completion of 300A-300B, and employment as Associate, Teaching Fellow, or Teaching Assistant in the Department of Rhetoric. Students taken on a satisfactory/unsatisfactory basis. (W, Sp)

302. Teaching Public Speaking. (2) One 2-hour discussion per week. Prerequisite: graduate status in Rhetoric. Instruction in techniques for teaching public speaking and coaching debate teams. (Sp)
Slavic Languages and Literatures

New Courses

23A-23B-23C. Introductory Polish. (5-5-5) Formerly 23, 24A-24B. Four 1-hour meetings per week. (F, W, Sp)


29A-29B-29C. Introductory Czech. (5-5-5) Formerly 29, 30A-30B, 29A. Four 1-hour meetings per week. (F, W, Sp)

37. Languages and Peoples of Eastern Europe (4). Two 1 1/2-hour meetings per week. Lower division seminar. Introduction to Eastern Europe (including USSR), its language and language families, cultures, ethnic composition, political systems, geography, history, and present trends. Work includes library research and a final paper. (F)

191A-191B. Development of Marxist Literary Criticism. (4-4) Three 1-hour lectures per week. Prerequisite: must be taken in sequence. Students may enroll for one or both quarters. Application of Marxist theory to literature in the 19th and 20th centuries. Particular attention to practice in Eastern Europe and the USSR (imposition of normative aesthetics). Recent revisions and modifications. (Sp)

H195A-H195B. Senior Honors Sequence. (2-3) Hours of meeting are variable. Prerequisites: overall GPA of 3.3 and GPA in the Slavic major of 3.3. Advanced study culminating in the writing of a thesis. H195A-H195B is a two-quarter sequence, graded IP at the end of the first quarter; during the second quarter, the student will write an honors thesis and receive a final grade.

198. Supervised Group Study for Undergraduates. (1-5) Prerequisites: students must have completed 90 UNITS of undergraduate study and have a minimum GPA of 2.0. Students are required to be registered in an organized cooperative study of a topic in Slavic language or literature. Must be taken on a passed/not passed basis. (F, W, Sp)

289. History of the Russian Literary Language. (5) Formerly 189. Three 1-hour lectures and 1 hour of discussion per week. Prerequisite: 204A or equivalent. (F)

361. Slavic Teaching Methods. (4) One 1-hour seminar or consultation per week. Prerequisite: coursework in methodology. Required of all TA's and Associates in Slavic. Course to be repeated for credit each quarter of employment. Must be taken on a satisfactory/unsatisfactory basis. (F, W, Sp)

Change in Description

13. Russian Conversation. (2) Three 1-hour recitation sessions per week. Prerequisite: 4 or consent of instructor. May be repeated up to a total of 6 units. (F, W, Sp)

108. Advanced Polish. (5) Four 1-hour meetings per week. Prerequisite: 23C. (F)

112. Advanced Serbo-Croatian. (5) Four 1-hour meetings per week. Prerequisite: 23C. (F)

116. Advanced Czech. (5) Four 1-hour meetings per week. Prerequisite: 29C. (F)

Social Welfare

Page 214 (column two)

Major Requirements

Upper Division (see School of Social Welfare)

Sociology

New Course

112. Social Problems: Theoretical Perspectives and Policy Approaches. (4) Three hours of lecture per week. Prerequisite: a lower division Sociology course or consent of instructor. Selected social problems in modern societies, e.g., poverty, illness, crime and delinquency. Alternative explanations, actual and potential policies for dealing with the problems.

South and Southeast Asian Studies

New Courses

129. Sufis and Saints of India. (4) Three hours of lecture per week. Development of Sufism and Sufi orders in India; lives, legends, and contributions of great Indian sufis and Muslim saints; expression of Sufism in Indian literatures, role of sufis, saints, and their worship and shrines in Islam in India and Pakistan.

137. Indian Cinema. (4) Two 1 1/2-hour lectures per week. Study of the development of Indian Cinema, with special emphasis on film genres, popular culture, and the work of Ray, Sen, Bengali, Aranadan. To be offered Fall 1992 only.


294. Departmental Colloquium in South and Southeast Asian Studies. (3) Formerly 294A-294B. Three hours of lecture per week. Preparation and discussion of research papers in the area of South or Southeast Asian Studies. Topics chosen each year in consultation with faculty and students. Student papers prepared under supervision of faculty advisors. Organizational and planning sessions held during Fall Quarter. Papers are presented at weekly meetings during Spring Quarter.

Spanish and Portuguese

Spanish

Change in Description


269A-269B. A Single Author or a Special Topic. (4-4) 269B topic for Spring 1983: Espenora.


Statistics

Page 225, (column 3)

Credit for Overlapping Courses

For questions, exceptions, see the undergraduate non-major advisor.

Stat 2 may not be taken for credit by students having completed 5A-B, 20, 21, 25 or any upper division course in Statistics.

Stat 5A-B may not be taken for credit by students having completed 20, 21, 25 or any upper division course in Statistics.

Stat 20 may not be taken for credit by students having completed 21, 25, or any upper division course in Statistics.

Students having completed 2 or 5A will receive two units credit, while one unit is given students having completed 5A-B.

Stat 21 may not be taken for credit by students having completed 20, 25 or any upper division course in Statistics.

Students having completed 2 or 5A will receive two units credit, while one unit is given students having completed 5A-B.

Stat 25 may not be taken for credit by students having completed 20, 21 or any upper division course in Statistics. Students having completed 2 or 5A will receive two units credit, while one unit is given students having completed 5A-B.

Stat 100A may not be taken for credit by students having completed 134.

Stat 100B may not be taken for credit by students having completed 135A or 135B.

Stat 100C may not be taken for credit by students having completed 135A.

130A may not be taken for credit by students having completed 100B, 131, 135A, 147 or their equivalents. Students who have completed 20 or 21 will receive two units credit.

130B may not be taken for credit by students having completed 100C, 132, 135B.

131 may not be taken for credit by students having completed 100B, 130A, 135A, 147 or their equivalents.

132 may not be taken for credit by students having completed 130C.

134 may not be taken for credit by students having completed 100A.

135A may not be taken for credit by students having completed 100B or 147.

135B may not be taken for credit by students having completed 100C.

147 may not be taken for credit by students having completed 100B or 135A.

161 students who have completed Stat 135B will receive two units credit.

Zoology

New Courses

206. Advanced Studies in Morphology. (2) One 2-hour meeting per week. Prerequisites: coursework in morphology, graduate standing and/or consent of instructor. Current problems, questions, and techniques in morphology. May be repeated for credit. Must be taken on a satisfactory/unsatisfactory basis (W).

296. Special Study for Graduate Students. (1-4) Reading or other advanced study by arrangement with a staff member. (F, W, Sp)

299. Research. (1-12) Credit awarded according to work planned and accomplished. Must be taken on a satisfactory/unsatisfactory basis. (F, W, Sp)

IDS 205. Topics in Embryology. (2) See Interdepartmental Studies for the complete description of this course.

Change in Description

165. Herpetology. (5) Two 1-hour lectures and two 3-hour laboratories per week, and 2 weekend field trips. Prerequisites: 107A-107B. Advanced study of amphibians and reptiles. (Sp)

School of Library and Information Studies

New Course

230. Systems Analysis in Information Services. (3) Three hours of lecture per week. Systems approach to decision making and policy analysis in libraries and information centers. The role of system analyst in library and information center management.

277. Organizational Aspects of Information Systems. (3) Three hours of meetings per week. Prerequisite: none, but L271, BA 248, or computer literacy recommended. Information systems framework. Relationship of information systems to decision-making in organizations. Long-range planning for information system development. Behavioral issues. Implementation strategies.

310. Teaching Assistance Practicum. (1-6) Teaching assistance and preparation of instructional materials under supervision of faculty member. May be repeated for credit.

410. Research Skills Practicum. (1-6) Individual research work under supervision of faculty members. May be repeated for credit.
Change in Description

223. Library Technical Services. (3) Three hours of lecture per week. Prerequisites: 210, 211, and 212. Survey of developments and problems, with emphasis on management of acquisitions, cataloging, classification, storage, and preservation of library materials; personnel administration in technical services; application of mechanized systems.

235. Data Processing for Libraries and Information Management. (4) Three hours of lecture and 2 hours of laboratory per week. Introduction to computer programming with emphasis on algorithm development and structuring programming techniques for solving library and information center data processing problems, using the PLI programming language.

College of Natural Resources

Page 234 (column two)

New Division

Molecular Plant Biology

Division Chair: Michael Hillard. 642-3684

Undergraduate Program in Bioenergetics

Bioenergetics (page 247) has been incorporated in the new division of Molecular Plant Biology.

Undergraduate Courses

Bioenergetics

BIOE 101
BIOE 107
BIOE 125
BIOE 198
BIOE 199

Molecular Plant Biochemistry 120. Plant Biochemistry Graduate Courses

Cell Physiology

Cell Physiology 222
Cell Physiology 299

Cell Physiology 602

Conservation and Resource Studies

Page 236 (column three)

The major is in Conservation and Resource Studies, not Conservation of Natural Resources.

Agricultural and Resource Economics

Political Economy of Natural Resources

New Courses

PEN 3. Political Economy of Growth and Institutions. (4) Three hours of lecture and 1 hour of discussion per week. Limits to growth and the political economy of natural resources. History of economic thought and institutions. Macroeconomic, economic, political, and ecological crises. Stagflation and contemporary crisis. Capital versus natural resources in contemporary society. (Sp)

PEN 104. Resource Economics and Environmental Law. (4) Three hours of lecture and 1 hour of discussion per week. This course is a prerequisite to or consent of instructor. CRS 130 recommended. Introduction to American political and economic system with special emphasis on (a) concept of administrative discretion, where it comes from and institutional arrangements by which it may be controlled; (b) understanding selected environmental problems and regulations developed to combat the effects of that system. (F)

PEN 115. Modeling and Management of Biological Resources. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisites: Math 16A and 16B or equivalent, and 1 hour of lab, phylogeny, matrix, simulation, and management models; and their application to problems in agriculture, fisheries, forestry, and biological resources. (W)

PEN 131. Selected Legal Economic Aspects of Resource Management. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100 or consent of instructor. CRS 130 recommended. Introduction to general legal concepts and processes which underlie resource economics and management, and to specific vocabulary and programs in selected resources areas (usually water, minerals, forests, land, fish, wildlife). Development of legal systems: an understanding of legal approaches to resource issues and information needed in legal disposition. (Sp)

PEN 132. Energy Economics and the Public Lands. (4) Two hours of lecture and 2 hours of fieldwork per week. Prerequisite: consent of instructor. Research and writing oriented. Tutorial for advanced undergraduates and graduate students. Development of public policy in public utility/minerals field. Lecture/discussion, case studies, and student presentation. (F)

PEN 141. Analysis of Agricultural Markets and Trade. (4) Three hours of lecture and 2 hours of discussion per week. Prerequisite: 100 or Economics 100A or consent of instructor. Theory of externalities, role of property rights and nonrivalry; limits of social, political and bureaucratic organization for environmental management; alternative approaches to pollution control; and data requirements and techniques for estimating the economic value of pollution control. (W)

PEN 142. Economic Policy of Food and Nutrition in the U.S. (4) Formerly 160. Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100 or Economics 100A or equivalent. Economic analysis of food and nutrition policy issues—overview. The U.S. food system. U.S. food markets, federal and state regulations and U.S. food markets. Current policy issues in food and nutrition—food safety, food labelling cost benefit analysis. (W)

PEN 151. Agriculture in Economic Development. (4) Formerly CRS 161. Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100 or Economics 100A or consent of instructor. Role of agriculture in development and impact of developments on agriculture, food, population and resources; transformation of underdeveloped countries; policies in rural development. (W)

PEN 152. Economics of World Agriculture. (4) Formerly 164. Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100, Economics 100A, or consent of instructor. Economic analysis of demand, supply, institutions, national and international policies in world agricultural sectors, and their effects on policy. (Sp)

PEN 161. Land Economics. (4) Formerly 140. Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100 or Economics 100A and Math 1A or 16A or consent of instructor. How land is owned and used: an examination of how natural resources including minerals, forests, range, agriculture, and housing. Determinants of the location of economic activity. Land market failures. (W)

PEN 162. Water Resource Economics. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100, or Economics 100A, PEN 118, or consent of instructor. Water allocation system in California. Demand for water in agricultural, urban, and other uses. Water supply, city expansion, and pricing. Economics of water institutions, water markets, and water rights. Groundwater, the common pool problem and international allocation of water. Economics of water pollution. (Sp)

201. History and Institutions in Agriculture, Resource and Development Economics. (4) Four hours of lecture and 1 hour of discussion per week. Prerequisite: consent of instructor. Introduction to problems addressed by the Agricultural and Resource Economics Department. History, institutions and policies of American agriculture. Structure of the food sector. Pricing of agricultural products. Patterns and Policies of agricultural trade. Patterns and policy issues in economic development, history and policies affecting environmental quality and resource use. (F)

202. The Industrial Organization of Agricultural and Natural Resources Product Markets. (4) Four hours of lecture and 1 hour of discussion per week. Prerequisite: or consent of instructor. Industrial organization; monopolistic competition, economics of information, vertical integration, price discrimination, product quality, and advertising. Models will be applied to food retailing, cooperatives, fishing, and energy. Futures markets will also be discussed. (Wower)

203. Economics of Agricultural Production and Input Markets. (4) Four hours of lecture per week. Prerequisite: Economics 200 and 201 or equivalent or consent of instructor. Institutional organization; Optimal R&D in agriculture. Producer behavior over time. Producer behavior under uncertainty. Asset specificity and agriculture supply models. Labor markets and other human resource markets in agriculture and natural resource systems. (Sp)

300. Professional Preparation: Teaching of Political Economy of Natural Resources. (1-6) One to 2 hours of lecture and 1-2 hours of discussion per week. Prerequisite: graduate standing, appointment as a teaching assistant or associate, or consent of instructor. Discussion, problem review and development, guidance of discussion classes, course development, supervised practice teaching. May not be used to satisfy unit or residence requirements. Must be taken on a satisfactory/unsatisfactory basis. (F-W, Sp)

400. Professional Training in Research Methodology. (1-6) Individual training for graduate students in planning and performing research under supervision of a faculty. Intended to provide academic credit for experience obtained while holding a Research Assistantship. May not be used to satisfy unit or residence requirements. Must be taken on a satisfactory/unsatisfactory basis. (F, W, Sp)

Change in Description

PEN 101. Environmental Economics. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100 or Economics 100A or consent of instructor. Theory of externalities, role of property rights and nonrivalry; limits of social, political, and bureaucratic organization for environmental management; alternative approaches to pollution control; and data requirements and techniques for estimating the economic value of pollution control. (W)

PEN 102. Resource Allocation Over Time. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100 or Economics 100A or consent of instructor. Inter-temporal consumption and production; investment, capital, and the interest rate; optimal management of exhaustible and renewable resources; exploration and new technologies; measurement of resource scarcity; use of benefit-cost analysis for resource development projects. (F)

PEN 103. The Role of Government in Resource Allocation. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100 or Economics 100A or consent of instructor. Theories of regulation, interaction of legal system with economic, and taxes will be applied to agricultural and resources markets. Capital market breakdowns examined. Efficiency and equity implications of alternative policies discussed. (W)


Conservation and Resource Studies

New Courses

CRS 10A-10B-10C. Environmental Issues. (4-4-4) Formerly 165A-165B-165C. Three hours of lecture and 1 hour of discussion per week. Prerequisite: 100 and 1 hour ½-discussion section per week. 10A is not prerequisite to 10B. 10B is not prerequisite to 10C. 10A. Ecosystems. Their Maintenance and Disruption. Man's relationship to the natural environment: case studies of ecosystem maintenance and disruption. (F) 10B. Economic Development, population, energy, resources, technology, and alternative systems. (W) 10C. The Bay Area Environment. Biological, physical, socioeconomic analysis of the S.F. Bay Area. Major emphasis on projects and field work. (Sp)

CRS 10L-10M-10N. Environmental Issues—Special Emphasis. (2-2-2) Formerly IDS 10L-10M-10N. One ½- hour discussion section per week. 10L is prerequisite to 10M. 10M is prerequisite to 10N. 10L. Environmental Systems. Their Maintenance and Disruption. 10M. Supervised practicum for graduate students in Environmental Resources 10A. 10N. Environmental economics, population, energy, resources, technology, and alternative systems. (W) 10O. The Bay Area Environment. Biological, physical, socioeconomic analysis of the S.F. Bay Area. Major emphasis on projects and field work. (Sp)

CRS 99. Supervised Independent Study and Research. (1-5) Formerly CINR 99. Prerequisites: consent of instructor. Low enrollment. May be repeated for credit. Major in Conservation and Resource Studies. Supervised independent study or research on topics relevant to Conservation and Resource Studies. Intended for graduate students in Conservation and Resource Studies. Must be taken on a pass/not pass basis. (F, W, Sp)

CRS 140. Environmental Health and Development. (4) Three hours of discussion per week. Prerequisite: consent of instructor. Impact of environmental alterations resulting from development processes and other human activities which affect the health of people in developed and less developed parts of the world. Case studies and mitigation measures of diseases associated with water storage and utilization. (W)
For. 201. Advanced Forest Sampling. (3) Two 1 ½-hour lectures/discussions per week. Prerequisites: 101, 102, or equivalent, or consent of instructor. Application of advanced sampling theory to the measurement of forest and wildlife resources, estimators, sampling designs, remote sensing, and multiple parameter systems. (W)

For. 601. Individual Study for Master’s Students. (1-8) Individual study for the comprehensive examination in consultation with the field advisor. Units may not be used to meet either unit or residence requirements for a Master’s degree. Must be taken on a satisfactory/unsatisfactory basis. (F, W, Sp)

For. 616. Political Ecology. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisite: consent of instructor. Analysis of ecological problems in the U.S. from a standpoint of their roots in contemporary political and economic processes, and their potential solutions within the present political system. Emphasis on U.S. policy regarding environmental problems. (Sp)

CRS 168. Natural Resource Policy and Indigenous Peopled. (4) Two 1 ½-hour lectures and two 1-hour discussions per week. Prerequisite: consent of instructor. A critical analysis of the historical transformation of indigenous peoples in the Americas, and the impact of this on the natural environment. First 6 years were in the context of global context. Offered in Spring quarter of even numbered calendar years. (Sp)

CRS 198. Directed Group Studies for Advanced Undergraduates. (1-5) Formerly CRS 198. Prerequisite: consent of instructor. (SS)

CRS 120A-120B-120C. Environmental Education. (5-5-5) Formerly IDS 120A-120B-120C. One 3 ½-hour lecture discussion, one 2-hour lecture/discussion, and 6 hours of field work per week. Prerequisites: consent of instructor. Theory and practice of translating ecological knowledge into educational forms for all age levels and all facets of society, including schools. Concentrated experience in participatory education. Must be taken on a passed/not passed basis. 120A (F) 120B (W) 120C (Sp)

CRS 194. Seminar Seminar in Conservation and Resource Studies. (1-5) Formerly CRS 149. Prerequisites: consent of instructor, senior standing. Restricted to declared majors in Conservation and Resource Studies. Informal seminar provides opportunity for students to synthesize their knowledge, skills, and interests into a holistic perspective. Students will be encouraged to approach environmental issues in an interdisciplinary manner. A 1-hour oral presentation and a major paper will be required. (F, W, Sp)

CRS 195A-195B. Senior Thesis. (3-5-3) Prerequisites: senior standing in Conservation and Resource Studies. Subject must be approved by faculty sponsor and course initiated in the first or second quarter of the senior year. If not completed in one quarter, IP grade will be assigned and credit will be given when completed and approved, which must be by the end of the following quarter. (F, W, Sp)

CRS 196. Internship in Conservation and Resource Studies. (12-15) Formerly CRS 180. Thirty-two or 40 hours per week at placement location. Prerequisites: junior or senior standing, consent of advisor, faculty sponsor, and CRS Chair. Intern placements relevant to student's academic area of interest and career objectives with agencies, institutions, businesses, or organizations concerned with natural resources. Students will be responsible for substantial written analysis of experience as well as assigned readings. (F, W, Sp, SS)

CRS 197. Field Study in Conservation and Resource Studies. (1-5) Formerly CRS 197. Prerequisite: consent of instructor. Restricted to declared majors in Conservation and Resource Studies. Off-campus organizations relevant to specific aspects of Conservation and Resource Studies. Regular individual meetings and full written reports required. Must be taken on a passed/not passed basis. (F, W, Sp, SS)

CRS 199. Supervised Independent Study and Research. (1-5) Formerly CRS 199. Prerequisite: consent of instructor. Restricted to majors in Conservation and Resource Studies. Must be taken on a passed/not passed basis. (F, W, Sp, SS)

Nutritional Sciences

New Course

IDS 91A-918. Introduction to Food and World Order Studies. (4-4) See Interdepartmental Studies for the complete description of this course.

Change in Description

NS 134. Principles of Food Preparation. (4) Two 1-hour lectures, one 1-hour discussion, and one 3-hour laboratory per week. Prerequisite: 106 or consent of instructor. Application of food chemistry to the preparation of foods through study of basic principles, experimentation, and evaluation. Functional properties of fats, proteins, and carbohydrates. Evaluation of quality and sensory aspects of foods. Menus planning, equipment, and procedures of quantity food production and purchasing. (W)

NS 490. Clinical Dietetics Seminar. (0.5-1.5) Two hours of lecture, discussion, field trip and/or clinical presentation per unit per week. Prerequisites: 2.5 GPA in required major courses and consent of instructor. Seminars and discussions on professional roles and responsibilities of dietitians; clinical case presentations by professionals and students; special topics in clinical dietetics. May be repeated for credit up to 6 units. (F, W, Sp)

Pest Management

Change in Description

PM 155. Forest Pest Management. (4) Hours of lecture and discussion per week, and 4 overnight field trips. Prerequisites: Entomology 100, Plant Pathology 120 or Forstry 106, or consent of instructor. Role of destructive insects, diseases, and other pests in forest ecosystems, their impact on forest resource values and management objectives, and interactions with man’s activities. Diagnosis and evaluation of the worst pest situations and design of regulation and control in a systems context. (Sp)

Plant and Soil Biology

Bioenergetics

(New incorporated in the new division of Molecular Plant Biology)

Change in Description

Bioe. 101. Flow of Energy and Matter in the Living World. (3) Three 1-hour lectures per week. Prerequisites: Chemistry 1A, 1B, 1C, or 8A, Biology 1A, 1B. Energy requirements and chemical elements essential for life; origin and utilization of energy in the biosphere; oxygen, carbon, nitrogen, phosphorous; cycles; cycles of other essential elements in the biosphere; biological and non-biological future sources of energy. (F)

Bioe. 107. Bioenergetics. (3) Three 1-hour lectures per week. Prerequisites: Chemistry 1A, 1B, 1C, or 8A, Biology 1A, 1B. Nature and types of energy; energy conversion through photosynthesis, fermentation, and respiration; energy utilization in biological work at the molecular, cellular, and organismal levels; evolutionary development of biological energy production. (W)

Bioe. 117. Photobiology. (3) Three 1-hour lectures per week. Prerequisites: Chemistry 1A, 1B, 1C or 8A, Biology 1A, 1B. Interaction of light and living systems as studied from the molecular to the organismal level. Role of light in animal, plant, and microbial processes, including behavior, development, vision, photosynthesis/photorepiration, photophototaxis, bioluminescence, carincongesis, damage and repair of DNA. (Sp)

Plant Nutrition Courses

Change in Description

PN 120. Molecular Plant Biology. (4) Three 1-hour lectures and 1 hour of discussion per week. Prerequisite: Biochemistry 104A or 103A-103B. Biochemistry of plant processes, including photosynthesis, respiration, development, nitrogen and sulfur metabolism. (W)

School of Optometry

New Course

IDS 286. Neurobiology of Vision. (3) See Interdepartmental Studies for the complete description of this course.

Change in Description

190B. Optometry Research Project. (2) One class meeting, 1 meeting with research advisor, and 5 hours of laboratory per week. Prerequisite: consent of instructor. Thesis research for optometry students, presentation of research results. Credit and grade to be awarded on completion of 190C.

School of Public Health

Schoolwide Public Health Courses

New Courses

291A-291B. Introduction to Public Health. (3-3) Three 1-hour lectures per week. Required of all new students. Biological, physical factors affecting health of community, distribution of disease in populations; planning, policy analysis and administration of health programs. To be offered 1982-83 only. (F, W)

291C. Nuclear Technology: Public Health Effects and Polices. (3) Two 1-hour lectures per week. Examines sources and uses of man-made ionizing radiation; epidemiology and biological psychological effects of ionizing radiation; analysis of sources, distribution and techniques for protection. (F)

IDS 91A-918. Introduction to Peace and World Order Studies. (4-4) See Interdepartmental Studies for the complete description of this course.

Biomedical and Environmental Health Sciences

New Courses

191L. Introduction to Health Survey Methods (4) Three 1-hour lectures and one 2-hour laboratory section per week. Prerequisite: 160A or consent of instructor. Design of surveys in public health. Sampling techniques and theory. Program evaluation, Health services research and analysis. Construction of health status indexes and scales. To be offered 1982-83 only. (F)

268. Epidemiologic Methods. (3) Three 1-hour lectures per week. Prerequisites: concurrent enrollment in 160A and 2595 or consent of instructor. Principles and methods of epidemiology: study design, selection and definition of cases and controls, sampling, data analysis, and interpretation. Limited to graduate students specializing in epidemiology or biostatistics. (F)


Change in Description

162. Introduction to Public Health Statistics. (4) Two 1 ½-hour lectures and one 2-hour laboratory section per week. Prerequisite: high school algebra. Collection and analysis of vital data, measurement of risk, rate adjustment, introduction to life tables, descriptive statistics, statistical inference. (F)

188L. Biochemical Individuality Laboratory. (3) One 1-hour lecture/discussion and two 3-hour laboratories per week. Prerequisite: prior background in biological sciences. Principles and techniques applied to the analysis of biochemical individuality. (W)

274. Epidemiology and Control of Infectious Diseases. (3) One 3-hour lecture/discussion per week. Prerequisite: prior degree in biomedical sciences. Discussion
of major infectious diseases which confront public health workers, emphasis on disease surveillance methods and prevention programs. (W)

Social and Administrative Health Sciences

New Courses

131. Administrative Behavior and Processes in Health Agencies. (3-4) Formerly 130. Two 1-hour lectures and one 2-hour discussion/session/laboratory per week. Prerequisites: some experience in health. Students taking 131 may not enroll in 231. Introduction to health administration, focusing on organizational structure, management theory, budget and personnel. Use of cases and simulations. Four units may be earned by submitting a term paper. (Sp)

225A. Financial Management of Publicly Funded Health Care Institutions. (4) Two 2-hour lectures per week. Prerequisites: financial and cost accounting or consent of instructor. Principles of financial management in the context of community clinics and other free-standing ambulatory health care settings. (Sa)

225B. Advanced Financial Management of Publicly Funded Health Care Institutions. (4) One 3-hour lecture/discussion per week. Prerequisite: 225A or consent of instructor. Development of analytical methods of financial management in making resident decisions and efficiency and effectiveness into decision-making in community clinics. Use of computer exercises which involve budgetary planning, management planning and control systems, cost-volume-profit analysis, cost analysis, flow of proceeds, reimbursement analysis and financial statement analysis. (W)

231A. Administrative Behavior and Processes in Health Agencies. (4) Two 2-hour lectures per week. Prerequisites: equivalent in psychology. Not open to students enrolled in 131. Introduction to health administration, focusing on organization and management theory and practices as they relate to administration of health services. Cases, simulation and structured experiences will be used to tie theory to practice. (W)

244L. Advanced Health Education Theory Laboratory. (1) One 2-hour discussion/laboratory per week, to accompany the previous seminar, which is to be taken concurrently. Intra- and inter-personal change processes at the micro-level: small group dynamics; the consequences of risk and non-risk; health hazard appraisal; and the organizational process. Required for Health Education majors. (F)

243B. Advanced Theory in Health Administration. (3) Two 2-hour sessions per week. Prerequisite: 231A or equivalent. Study of current approaches to theories of innovation and change as they relate to theories of complex organizations and inter-organizational relationships in health administration. (Sp)

256A. Public Health Aspects of Nutritional Care: In Hospital Setting. (15) Ten weeks of full-time internship. Eight hours of lecture/discussion and 32 hours of field work per week. Prerequisites: admission to MPH Internship in Public Health Nutrition. Organization and delivery of nutrition care services in a hospital setting, including: nutrition care planning; interviewing and counseling; charting; nutrition and diet in: diabetes; cancer; hypertension; arteriosclerosis; gastrointestinal tract disorders; hepatic disease; renal disease; surgery; burns; food service administration. (F, W)

256B. Public Health Aspects of Nutritional Care: In Community Agencies. (6) Eight weeks of full-time internship. Four hours of lecture/discussion and 36 hours of field work per week. Prerequisites: admission to MPH Internship in Public Health Nutrition, completion of 256A or consent of instructor. Organization and delivery of nutrition care services in community agencies such as health departments, ambulatory health care settings, child care and education facilities, and others. Topics include: nutrition assessment; nutrition education (individual, group, client and staff), short and long range planning, advocacy. (F, W)

283. Research Issues, Applications, and Management in the Health Field. (2-4) One 2-hour discussion per week, with additional scheduled discussions as appropriate for additional units. Critical analysis of selected research topics in health, including approaches to conceptualizing research on a particular issue, methodological problems in planning and conducting field investigations, and management of large scale research projects. (W)

291R. National Food and Nutrition Policy. (3) Two 1½-hour sessions per week. Prerequisite: some educational or work experience in the nutrition field or consent of instructor. Understanding and interpreting administrative, judicial, and legislative branches of our government as they affect nutritional policy will be the primary considerations.

292. Seminar for M.P.H. Students. (1-4) Regularly scheduled seminar meetings in accordance with the units earned. Current topics and issues of concern to program areas in the health field. (F, W, Sp)

293. Dr. P. H. Seminar. (1-8) Regularly scheduled seminar meetings in accordance with the units earned. Discussion and analysis of dissertation research projects, as well as conceptual and methodological problems in planning and conducting health research. (F, W, Sp)

Change in Description

267. Planning for Medical Care Delivery. (4) Two 2-hour lecture/discussions per week. Prerequisites: major in Public Health Administration or Planning or Policy, 206, or consent of instructor. Community and institutional planning for personal health care services. (Sp)

253. Nutrition for Health Professionals. (3) Two 1½-hour lecture/discussions per week. Prerequisite: graduate standing in School of Public Health or consent of instructor. Introduction to basic concepts of nutrition. Critical evaluation of current issues and problems in nutrition related to health of public. Implications for health professionals in practice and programming. (Sp)

Graduate School of Public Policy

New Courses

171. Educational Governance and Policymaking. (5) Two 2-hour meetings weekly. Examines how educational policy gets made and who becomes involved in the enterprise. Case histories of such financing public schools are discussed. These cases illustrate the elements of policymaking including formulating issues, use of social science data, and implementation problems. (F)

188. Current Issues and Conflicts in American Health Policy. (5) Two 2-hour lectures per week. Examination of different ideas about health, today's health policy alternates, and public policy process for determining health policy. Role of doctors, hospitals, and insurers to Medicaid, Medicare and their expanding costs; and to health and issues such as genetic engineering and environmental pollution. To be offered Winter 1983 only. (Sp)

201. Issues and Cases in Public Policy Analysis. (3) Two hours of meetings per week. Exposes beginning public policy student to a variety of policy problems and examples of approaches to their solution. Must be taken on a satisfactory/unsatisfactory basis. (F, W)

210. Program Analysis. (3) Three 2-hour meetings per week. Examination of different ideas about health, today's health policy alternatives, and public policy process for determining health policy. Role of doctors, hospitals, and insurers to Medicaid, Medicare and their expanding costs; and to health and issues such as genetic engineering and environmental pollution. To be offered Winter 1983 only. (Sp)

217. Advanced Demographic Methods. (6) Three hours of lecture per week. Prerequisites: 210, 211. Statistical analysis of demographic data, sensitivity testing of standard methods, refinement of analytic techniques, microsimulation. (W, Sp)

292A-292B. Advanced Research Seminars: Special Topics. (2-4; 2, 4) Prerequisite: consent of instructor. None of the segments is prerequisite to any other. Special research topics in advanced areas, by lecture or seminar conferences on topics to be announced. May be repeated without duplication of units. (F, W)

293. Advanced Research Seminar. (4) Discussion of current topics in demography. May be repeated without duplication of credit. (Sp)

293R. Research Seminar—Research Design. (4) Two hours of seminar per week. Prerequisite: 200, 201, 211, or equivalent. Introduction to demographic research. May be repeated without duplication of credit. (F, W)

Energy and Resources Group

New Course

141. Residential Energy Conservation. (3) Three hours of lecture and 1 hour of laboratory per week. Prerequisite: upper division standing. Engineering, economic, and policy aspects of residential energy conservation: building heat loss calculations, thermal comfort, life cycle costing, and economic analysis of conservation potentials in appliances, house heating, and national and local conservation policies. (F)
Ethnic Studies

New Course

148. Economic Development in Third World Communities. (5) Two 2-hour lectures and one 1-hour discussion per week. Prerequisite: 20A, 58, or consent of instructor. Analysis of the dynamic course from birth to the present of Asian American communities in both historical and contemporary periods, focusing on the processes of development, including demographic change, economic development, and social change. May be used two times for credit. May be taken on satisfactory/unsatisfactory basis.

Asian American Studies Program

New Courses

20C. Introduction to the Culture of Asians in the United States. (5) Two 2-hour lectures and 1 hour of discussion per week. Analysis of intellectual and artistic activities of Asians in United States culture and ideology, racism in art and culture, artistic expression as it reflects Asian-American responses to issues of race and culture. Major emphasis placed on literature, though music and visual arts will be discussed.

125. Comparative Historical Analysis. (5) Two 2-hour lectures and 1 hour of discussion per week. Prerequisite: 20A. Comparative study of experiences of Asians and Pacific Islanders in Hawaii from 1778 or the arrival of Captain James Cook to the present. Examines immigration, labor, culture, politics, and economic developments in the islands.

146M. Selected Topics and Issues in the Asian American Community: Immigration. (4) Three hours of lecture and 1 hour of discussion per week. Prerequisite: 20A. Comparative historical analysis of government policies affecting immigration, socio-economic and employment status of Asian Americans. Growth patterns of Asian American communities in U.S. since 1965, especially from Southeast Asia, illegal immigration from Mexico and Central America, immigration law; amnesty issues and citizenship will be covered.

166. Comparative Analysis of American Comminities. (5) Two 2-hour lectures and 1 hour of discussion per week. Prerequisite: 20A or 20B. Compares social organizations and institutions within Asian-American communities. An analysis of the formation and development of social, political, and economic organizations provides the basis for understanding the response of Chinese, Japanese, Korean, Filipinos, and new Asian immigrants to American race relations.

197M. Field Study in Asian American Communities: Immigration. (1-5) One to 3 hours of meeting and 2-12 hours of field work per week. Prerequisite: must be taken concurrently with 146M. Supervised experience in area of interest. Field placement with community agencies serving immigrants in Bay Area. Completion of specific project and/or paper required in conjunction with 146M.

300. Professional Training for Teaching Assistants in Asian American Studies. (2) Two hours of seminar per week. Special training for Teaching Assistants in both Asian American Studies subject matter, and in methods to handle special learning problems of Asian American students. May be repeated two times for credit. Credit may be taken on satisfactory/unsatisfactory basis.

Native American Studies Program

New Courses

104. Native American Economic Development. (5) Three 1 1/2-hour lectures per week. Prerequisite: 71A or consent of instructor. Analysis of impact of U.S. economic policies on tribal lands and resources. Examination of the effect of federal policies on BIA regulations and corporate interests on tribal economic life. Consideration of alternative strategies of development. (Sp)

173. History of Indians of the Northeast Woodlands. (5) Two 2-hour lectures per week. Prerequisite: 71B or consent of instructor. Indian groups and cultures from the eastern seaboard to the Mississippi River and from lower Virginia-Kentucky to southern Canada. Emphasis on precontact ecological adaptations, language, and cultures, and historical consequences of European colonization.

Change in Description

155. Native American Medicine. (5) Two 2-hour seminars per week. Prerequisites: 71A, Anthropology 3, or consent of instructor. Theories of health and illness, and curing practices, including herbal medicines, cures, and physical techniques, among Native American groups in North and South America.

Field Studies Program

New Course

IDS 196A-196B. The Developing Child in Contemporary Society. (5-5) See Interdepartmental Studies for the complete description of this course.

Health and Medical Sciences Graduate Program

New Courses

208A-208B. Introduction to Clinical Psychology. (3-3) One 1 1/2-hour lecture and one 3 1/2-hour laboratory per week. Prerequisite: graduate standing in Health and Medical Sciences or consent of instructor. Teaching of specific psychiatric skills. The human mind as adaptive to stress and disease. (W)

210. Physical Bases of Radiology and Nuclear Medicine. (2) Formerly IDS 210. One 1 1/2-hour lecture per week and occasional laboratory field trips. Prerequisite: graduate standing in the Health and Medical Sciences Program or consent of instructor. Provides basic knowledge of physics necessary for intelligent use, understanding, and evaluation of clinical services given by radiologists and nuclear medicine clinicians. Fundamental radiation physics, radiation biology, environmental radiation, introduction to physical basis of nuclear medicine, clinical diagnostic and therapeutic radiology. (Sp)

218A-218B. Developmental Concepts in Mental Health. (3-3) Two 1 1/2-hour lectures per week. Prerequisite: graduate standing in the Health and Medical Sciences Program or consent of instructor. Basic principles of human development emphasizing its dynamic course from birth through maturity. Psychosocial theories emphasized, but physiological development is included. Practical experience with children in various developmental phases will complement reading and lectures. Credit and grade awarded at end of each quarter. (F, W)

218C. Developmental Concepts in Mental Health. (3) One 3-hour lecture per week. Prerequisite: graduate standing in the Health and Medical Sciences Program or consent of instructor. 218C is the third quarter of 218A-218B.

249. Advanced Health Policy. (3) Three hours of seminar per week. Prerequisite: graduate standing in Health and Medical Sciences or consent of instructor. Presents future health policy with multi-disciplinary analysis of health services organization and policy for special population groups—the poor, aged, disabled, and others. Health care delivery systems and policies, and health care problems.
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