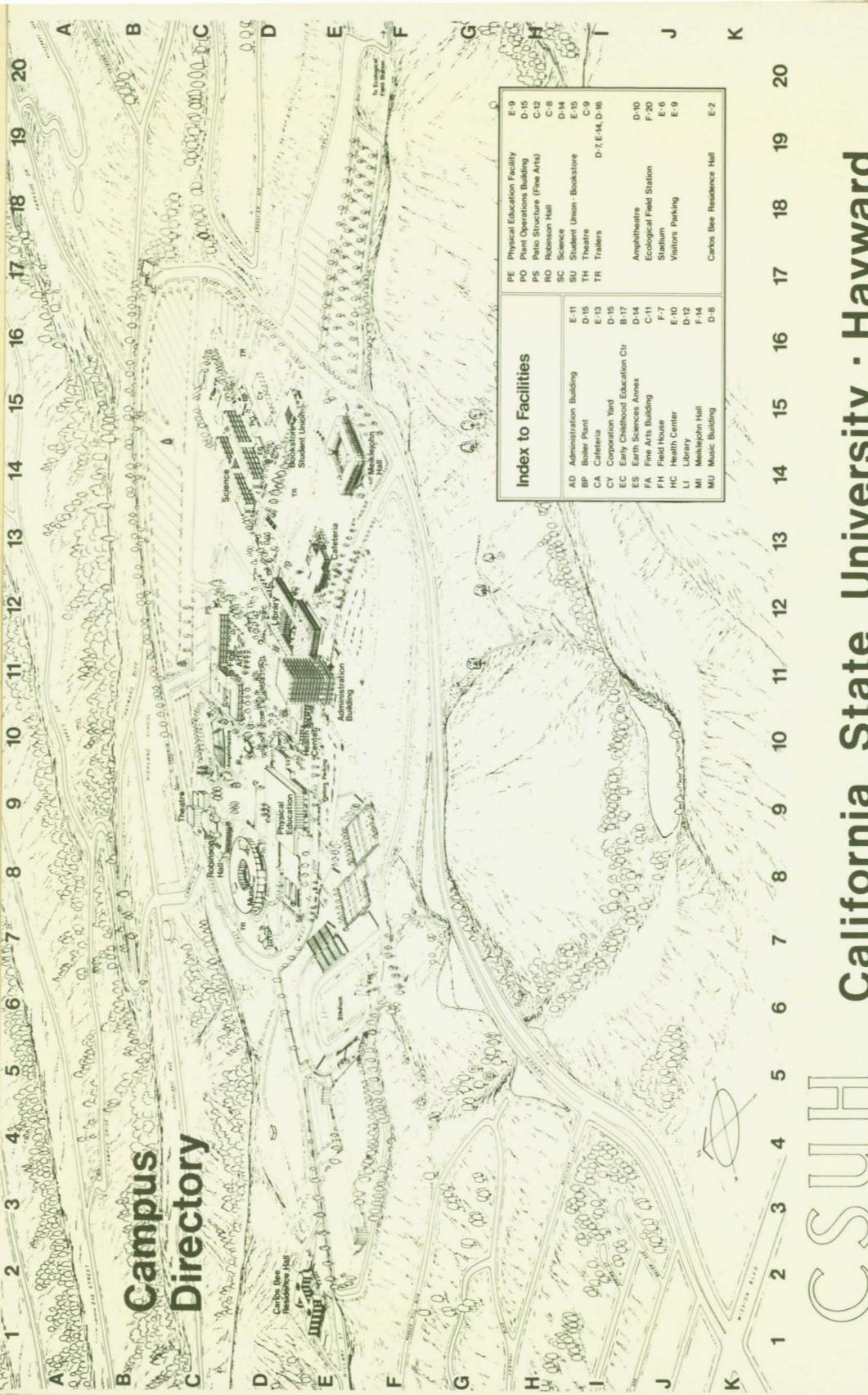


**California State University, Hayward
General Catalog, 1974-75**

Campus Directory



CSUH California State University · Hayward

General Catalog

1974-1975

The California State University and Colleges

CALIFORNIA STATE UNIVERSITY, HAYWARD

25800 Hillary Street, Hayward, California 94542

EFFECTIVE DATES: FALL QUARTER, 1974
through SUMMER QUARTER, 1975

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PHOTOGRAPHS: PORKY CALADO

AERIAL VIEW: ERNIE JACO

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ACADEMIC CALENDAR, 1974-75

Fall Quarter 1974

Sept. 23	Opening of fall quarter
Sept. 24-27	Orientation, advisement, registration, and payment of fees
Sept. 30	Classes begin
Sept. 30-Oct. 7	Late registration period
Sept. 30-Oct. 7	Add-drop period
Oct. 18	Last day to drop a class
Nov. 11	Veterans Day (University closed)
Nov. 28-29	Thanksgiving recess (University closed)
Dec. 6	Last day of classes
Dec. 9-13	Final examinations
Dec. 13	End of quarter
Dec. 16	Grades due in Records Office 12 noon
Dec. 14-Jan. 1	Academic recess

Winter Quarter 1975

Jan. 2	Orientation, advisement, registration, and payment of fees
Jan. 3	Orientation and advisement
Jan. 6	Classes begin
Jan. 6-13	Late registration period
Jan. 6-13	Add-drop period
Jan. 24	Last day to drop a class
Feb. 17	Washington Day (University closed)
March 14	Last day of classes
March 17-21	Final examinations
March 21	End of quarter
March 24	Grades due in Records Office 12 noon
March 22-30	Academic recess

Spring Quarter 1975

March 31	Orientation, advisement, registration, and payment of fees
April 1	Classes begin
April 1-8	Late registration period
April 1-8	Add-drop period
April 21	Last day to drop a class
May 26	Memorial Day (University closed)
June 6	Last day of classes
June 9-13	Final examinations
June 14	Commencement
June 14	End of quarter
June 16	Grades due in Records Office 12 noon

June 15-22

Academic recess

Summer Quarter 1975

June 23	Orientation, advisement, registration, and payment of fees
June 24	Classes begin
June 24-July 1	Late registration period
June 24-July 1	Add-drop period
July 4	Independence Day (University closed)
July 15	Last day to drop a class
Aug. 22	Last day of classes
Aug. 25-29	Final examinations
Aug. 29	End of quarter
Sept. 2	Grades due in Records Office 12 noon
Aug. 30-Sept. 28	Academic recess

Summer Session 1975

June 4	Deadline for mail registration for Summer Session
June 23	Registration for students not registering by mail
June 23	Classes begin
June 24	Late registration
June 24	Last day to add classes in six-week courses
July 4	Independence Day (University closed)
July 7	Last day to drop classes without record of enrollment *
July 11	Last day to drop a class
Aug. 1	Last day of Summer Session six-week term
Aug. 4	Grades due in Records Office for six-week courses

* In workshops and other courses less than six weeks long, students may withdraw during the first two days without a grade mark; the last day to drop a course will be the mid-point of the course.

Other Important Dates for Students

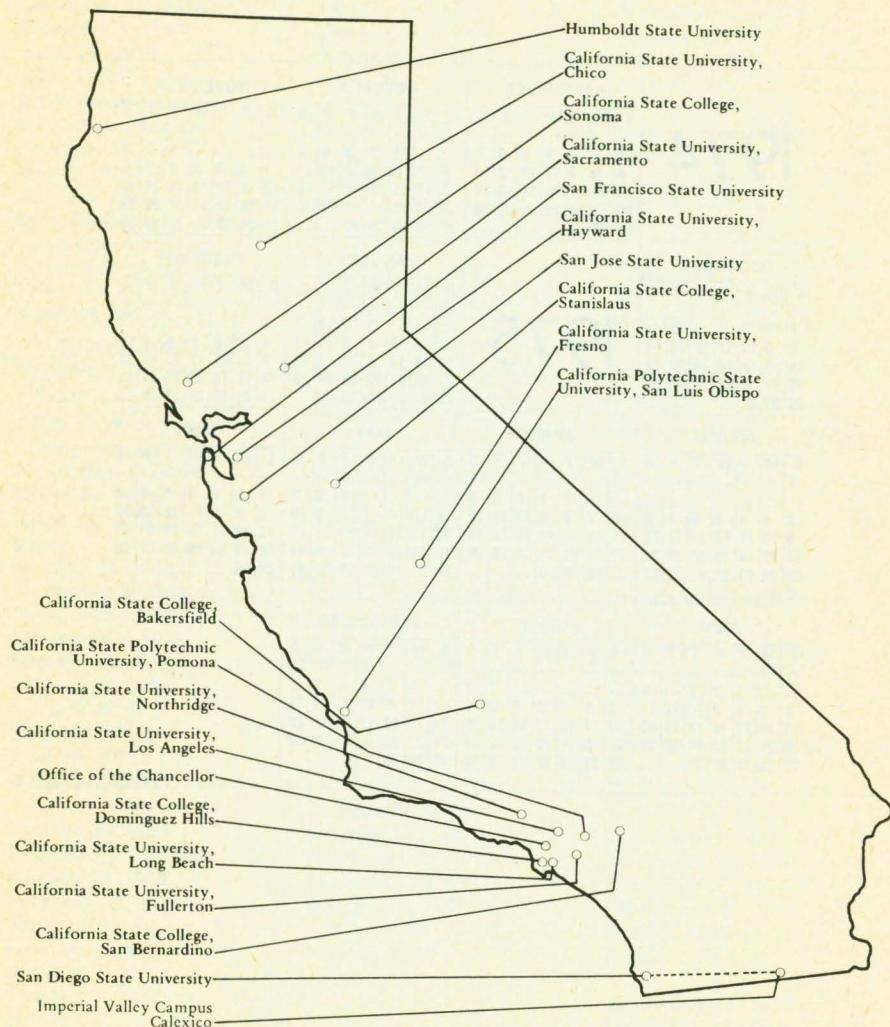
- I. Application for Admission or Readmission to the University—see pages 38, 44.
- II. Application for Admission to the Teacher Education Program—see page 199.
- III. Special Tests*

Test Date	Registration Opens	Registration Closes
A.C.T.		
October 19, 1974	August 26, 1974	September 30, 1974
December 14, 1974	October 14, 1974	November 18, 1974
February 22, 1975	December 9, 1974	January 27, 1975
April 26, 1975	February 17, 1975	March 31, 1975
June 14, 1975	April 21, 1975	May 19, 1975
A.C.T. Residuals		
November 29, 1974	October 28, 1974	November 28, 1974
February 14, 1975	January 13, 1975	February 13, 1975
May 2, 1975	March 3, 1975	May 2, 1975
August 1, 1975	June 30, 1975	July 31, 1975
Code Exams		
American History		
November 14, 1974	October 14, 1974	November 12, 1974
February 13, 1975	January 13, 1975	February 11, 1975
April 24, 1975	March 24, 1975	April 22, 1975
California Government		
November 14, 1974	October 14, 1974	November 12, 1974
February 13, 1975	January 13, 1975	February 11, 1975
April 24, 1975	March 24, 1975	April 22, 1975
American Constitution		
November 16, 1974	October 14, 1974	November 12, 1974
February 14, 1975	January 13, 1975	February 11, 1975
April 25, 1975	March 24, 1975	April 22, 1975
S.A.T.		
October 12, 1974		mid-September 1974
November 2, 1974		mid-October 1974
November 23, 1974 (achievement only)		mid-October 1974
December 7, 1974		mid-November 1974
January 11, 1975		mid-December 1974
February 1, 1975		mid-January 1975
April 5, 1975		mid-March 1975
May 10, 1975		mid-April 1975
June 28, 1975		mid-May 1975
G.R.E. and GSFLT		
October 26, 1974	October 1, 1974	October 8, 1974
December 14, 1974	November 19, 1974	November 26, 1974
January 18, 1975	December 24, 1974	December 31, 1974
February 22, 1975	January 28, 1975	February 4, 1975
April 26, 1975	April 1, 1975	April 8, 1975
June 21, 1975	May 27, 1975	June 3, 1975
M.C.A.T.		
October 5, 1974		September 13, 1974
January 11, 1975		December 16, 1974
April 26, 1975		March 31, 1975
D.A.T.		
October 12, 1974		September 16, 1974
January 11, 1975		mid-December 1974
April 26, 1975		mid-March 1975
A.T.G.S.B.		
November 2, 1974		October 11, 1974
January 25, 1975		January 3, 1975
March 2, 1975		February 28, 1975
July 12, 1975		June 20, 1975
Penalty dates		
October 1, 1974		
November 19, 1974		
December 24, 1974		
January 28, 1975		
April 1, 1975		
May 27, 1975		

* For Code Examinations, Millers Analogies, LSAT and GSFLT registration and date information, contact the CSUH Testing Office.

1974							1975													
SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER			JANUARY			FEBRUARY					
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5
30	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MARCH							APRIL							MAY						
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31	—	—	—	—	—	—	—	—	—	—	—
30	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JULY							AUGUST							SEPTEMBER						
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	24	25	26	27	28	29	30
27	28	29	30	31	—	—	24	25	26	27	28	29	30	28	29	30	—	—	—	—
31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

THE CALIFORNIA STATE UNIVERSITY AND COLLEGES



THE CALIFORNIA STATE UNIVERSITY AND COLLEGES

The individual California State Colleges were brought together as a system by the Donahoe Higher Education Act of 1960. In 1972 the system became The California State University and Colleges and fourteen of the nineteen campuses received the title *University*.

The oldest campus — San Jose State University — was founded in 1857 and became the first institution of public higher education in California. The newest campus — California State College, Bakersfield — began instruction in 1970.

Responsibility for The California State University and Colleges is vested in the Board of Trustees, whose members are appointed by the Governor. The Trustees appoint the Chancellor, who is the chief executive officer of the system, and the Presidents, who are the chief executive officers on the respective campuses.

The Trustees, the Chancellor and the Presidents develop systemwide policy, with actual implementation at the campus level taking place through broadly based consultative procedures. The Academic Senate of The California State University and Colleges, made up of elected representatives of the faculty from each campus, recommends academic policy to the Board of Trustees through the Chancellor.

Academic excellence has been achieved by The California State University and Colleges through a distinguished faculty, whose primary responsibility is superior teaching. While each campus in the system has its own unique geographic and curricular character, all campuses, as multipurpose institutions, offer undergraduate and graduate instruction for professional and occupational goals as well as broad liberal education. All of the campuses require for graduation a basic program of "General Education-Breadth Requirements" regardless of the type of bachelor's degree or major field selected by the student. A limited number of doctoral degrees are offered jointly with the University of California.

Presently, under the system's "New Approaches to Higher Education," the campuses are implementing a wide variety of innovative programs to meet the changing needs of students and society. Among pilot programs under way are instructional television projects, self-paced learning plans, minicourses, and credit-by-examination alternatives. *The Consortium of The California State University and Colleges* fosters and sponsors local, regional, and statewide external degree and certificate programs to meet the needs of individuals who find it difficult or impossible to attend classes on a campus.

Enrollments in fall 1973 totaled 290,000 students, who were taught by a faculty of 16,000. Last year the system awarded over 55 percent of the bachelor's degrees and 35 percent of the master's degrees granted in California. Over 400,000 persons have been graduated from the nineteen campuses since 1960.

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THE CALIFORNIA STATE UNIVERSITY AND COLLEGES

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California Polytechnic State University, San Luis Obispo	Robert E. Kennedy, President San Luis Obispo, California 93407 Tel. (805) 546-0111
California State College, Sonoma	Thomas H. McGrath, President 1801 East Cotati Avenue, Rohnert Park, California 94928 Tel. (707) 795-2880
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Chairman, Department of Black Studies	Edward E. France
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Chairman, Department of Political Science	Bernard C. Hennessy
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Activities Adviser	Scott L. Primm
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Career Adviser	Bonnie Gilpin
Career Adviser	Nancy Olsson
Career Adviser	Lue Ruibal

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Accounting Officer	Fred Okamoto
Budget Officer	Lee Bateman
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Purchasing Coordinator	Don S. Fletcher
Foundation Manager	William G. Nelson

Institutional Studies

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Research Technician	Leone Nidiffer

Public Affairs and Information Services

Director of Public Affairs	Darrell M. Gray
----------------------------------	-----------------

Campus Data Center

Director of Campus Data Center	Leo R. von Gottfried
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PART I

GENERAL INFORMATION and REGULATIONS

GENERAL INFORMATION

For a listing of degree and credential programs offered by Cal State see page 93.

History and Physical Facilities

California State University, Hayward was established by the Legislature in 1957, and in 1959 began operating from temporary quarters in Hayward as the State College for Alameda County. The rapid growth of the college since its founding is reflected by the increase in enrollment from an initial 400 full and part-time students to 12,500 in Fall 1974.

The college moved to its present 354-acre site in the Hayward Hills in 1963, becoming California State College at Hayward. This name was changed to California State College, Hayward, by action of the Trustees in 1968, and to its present form, California State University, Hayward, in 1972.

The campus facilities currently include modern instructional buildings devoted to music, fine arts, physical education, speech/drama, and the sciences; a large general classroom building; a student union-bookstore building; a library-administration complex; a cafeteria; and a student health center. A privately financed and operated dormitory is located on property adjacent to the campus.

The University shares the Moss Landing Marine Laboratories at Monterey Bay with five other state colleges. These facilities provide year-round course work in marine biology, oceanography, and other marine sciences.

Location of CSUH

The location of CSUH in the rolling foothills overlooking San Francisco Bay offers its students many educational and recreational advantages. The climate of the region is moderate and provides a pleasant environment for study as well as opportunity to utilize the recreational potential of the ocean to the west and the mountains to the east. The proximity of the University to San Francisco and other Bay Area cities makes available the museums, libraries, art galleries, aquariums and other cultural and educational resources of this metropolitan area. There are also plays, musicals, concerts, and the entire range of cosmopolitan entertainment for which San Francisco is famous. These aspects of student life are an important complement to academic efforts and contribute to a broadening, valuable college experience.

Quarter System, Quarter Unit

California State University, Hayward operates on the quarter system

with each quarter approximately 10 weeks in length. Enrollment in *Extension* courses or in *Summer Session* does not constitute enrollment in a *quarter*.

One (1) semester unit is equivalent to one and one-half (1½) quarter units of credit.

Accreditation

The University is accredited by the Western Association of Schools and Colleges.

All of the University's programs for teaching and services credentials are approved by the California State Commission on Teacher Preparation and Licensing.

The professional preparation programs of the School of Education are accredited by the National Council for Accreditation of Teacher Education.

The B.S. in Chemistry is accredited by the American Chemical Society.

The B.A. and M.A. in music are accredited by the National Association of Schools of Music.

The B.S. in Business Administration is accredited by the American Assembly of Collegiate Schools of Business.

Continuing Education Services

In addition to the regular resident-credit campus offerings, Continuing Education Services provides many other opportunities to those who wish to continue their education. These offerings may be for credit or personal growth; they are generally off-campus at various locations within Alameda and Contra Costa counties and they are open to non-matriculated students.

A broad spectrum of extension courses is offered for upper division students who wish to complete baccalaureate degree requirements. Professional level extension courses are offered to aid teachers, other educators, managers in governmental agencies, business, the social services, and others interested in strengthening their professional preparation.

In addition, Continuing Education Services organizes seminars, workshops, and conferences for groups in the community designed to help them increase their vocational competence, to enrich and broaden their cultural life, and to help them come to a fuller realization of their personal goals.

Concurrent enrollment of non-matriculated students who have the necessary prerequisites is provided through Continuing Education in regular on-campus classes with the permission of the instructor and provided space is available. Students should obtain a registration packet from the Department concerned or Continuing Education which includes approval form to be signed by the faculty member and extension registration cards. Completed forms and payment of fees must be turned in to Continuing Education by the last day of Add-Drop period.

Registration in extension courses does not require formal admission to the University, it does not provide "continuing student" status to returning campus students, and it does not imply admission.

Information on course offerings, extension enrollment procedures, and other phases of the Continuing Education program can be obtained from the Dean of Continuing Education, AD 851.

Summer Session

The summer session is offered *in addition to and separate from the regular, full-length summer quarter*. It is designed, primarily, to meet the needs of teachers and other professionals who wish to improve their professional competence; however, courses of general interest (catalog-listed courses) are offered in addition to short-term classes covering a wide range of topics in seminars, workshops, and institutes of special interest to teachers, supervisors, and school administrators.

Because prospective summer session students do not formally apply for admission to the University, attendance during a summer session does not constitute either "continuing student" status for any quarter or admission to any regular quarter.

Application forms and information on course offerings are available from the Dean of Continuing Education, AD 851.

International Programs

An overseas study program is offered by The California State University and Colleges International Programs in which students enroll for a full academic year simultaneously at their home campuses, where they earn academic credit and maintain campus residency, and at a distinguished foreign university or a special program center.

Cooperating universities abroad include the University of Provence, France; the University of Heidelberg, Germany; the University of Florence, Italy; the Universidad Ibero-Americana, Mexico; the University of Granada and the University of Madrid, Spain; the University of Uppsala, Sweden; Tel Aviv University and the Hebrew University of Jerusalem, Israel; and Waseda University, Japan. In the United Kingdom, cooperating universities, which may vary from year to year, include Dundee, Leicester, London, Oxford, Liverpool, Lampeter, and Sheffield. In addition, California State University and Colleges students may attend a special program in Taiwan, Republic of China, or an architectural program in Copenhagen, Denmark.

Eligibility is limited to students who will have upper division or graduate standing during their year of participation, who have a 2.5 overall grade point average, who show ability to adapt to a new environment, and who, in the cases of France, Germany, Mexico and Spain, are proficient in the language of instruction at the foreign university. Selection is made by a faculty committee on the students' home campus and by a statewide faculty committee.

The International Programs is supported by state funds to the extent that such funds would have been expended had the student concerned continued to study in California. Students assume costs for pre-departure orientation, insurance, transportation, housing and meals. Home campus registration

fees, tuition on the home campus for out-of-state students (if the student is not a California resident), and personal incidental expenses or vacation travel costs while abroad are also paid by the student. The Office of International Programs collects and administers funds for those items which the program must arrange or can negotiate more effectively, such as home campus fees, orientation costs, insurance, outbound transportation, and, in some centers, housing. Students accepted in the International Programs may apply for any financial aid available at their home campuses, except work-study.

Application for the 1975-76 academic year must be submitted before February 14, 1975 (except for United Kingdom applicants who must submit applications by January 7, 1975). Applicants are notified of acceptance by April 1, 1975. Detailed information may be obtained from Dr. R. Thomas Watson, CSUH Coordinator of International Programs (AD B357), or by writing to The California State University and Colleges International Programs, 5670 Wilshire Boulevard, Los Angeles, California 90036.

Courses taken by students enrolled in the International Programs are shown on the CSUH transcript in terms of CSUH catalog designations. In the absence of equivalents, courses are shown on CSUH transcripts as follows:

- (Dept.) 2000 IP (course title) Lower Division
- (Dept.) 4000 IP (course title) Upper Division
- (Dept.) 6000 IP (course title) Graduate

Veterans' Legislation

A permanent GI Bill providing college educational allowances and other benefits for veterans is now in effect.

Eligibility—The veteran must have served on active duty for a continuous period of 181 days or more, any part of which occurred on or after January 31, 1955, or, if he served for less than 181 days, must have been discharged or released on or after January 31, 1955, because of service connected disability.

Procedure—Application may be made to the Veterans' Administration, 211 Main Street, San Francisco, California within 15 days from the day classes begin.

Quarterly Renewal—Each student attending the University under provisions of the Veterans' Administration or the Cal-Vet program is expected to clarify his status with the Records Office at the beginning of each quarter during the registration period.

Full-Time Unit Load—A veteran (or dependent of a disabled or deceased veteran), under either Chapter 34 or 35, must carry 12 or more units as an undergraduate in order to be considered a full-time student according to V.A. regulations. A graduate student must be enrolled in courses that apply to a definite program (Master's degree and/or credential) and must carry 8 or more graduate units to be eligible for full-time benefits. See p. 62 for information on weighted units.

Information—Information about Veterans' Administration or Cal-Vet regulations is available at the Admissions and Records Information Counter in the Administration Building.

Military Status

Information is available to students concerning their military status and the draft laws. See *Veterans Legislation*, page 22.

California State University, Hayward offers no program or courses leading to a military commission. Interested students, however, may enroll in the extension programs in the Department of Military Science or the Department of Aerospace Studies at the University of California, Berkeley. Flying cadets receive free flight instruction during their senior years leading to FAA Private Pilot's Licenses. Eighteen units of extension courses may be transferred from an accredited institution and counted in the total necessary for graduation at California State University, Hayward. For further information direct inquiries to the Office of the Dean of Undergraduate Studies, *Administration 859*.

Alumni Association

A strong, enthusiastic Alumni Association works closely with the students of CSUH, to promote and foster good relationships between the students of the University, the community, and the alumni. Funds of the Alumni Association from contributions and other sources are used to help support the educational programs of CSUH.

All persons who have ever attended the University and who are no longer registered as undergraduate students are eligible for membership in the Alumni Association. Membership is conferred upon payment of Annual Dues.

STUDENT RESPONSIBILITIES

Each student must assume responsibility for his progress by keeping an up-to-date record of the courses he has taken and by checking periodically with his academic adviser. Responsibility for errors in program or in interpretation of regulations of CSUH rests with the student. Advice is always available upon request.

Students are expected to attend all meetings of their classes. Excessive unexcused absences will be sufficient reason for lowering a grade or refusing to allow a student to take final examinations.

SERVICES AND FACILITIES

SPECIAL STUDENT SERVICES

The University offers a great variety of special services to students under the direction of the Dean of Students, Associate Deans, and the Directors of Programs. The Student Services support the academic programs of the University by better insuring that students receive maximum benefit from their University experience, and by facilitating a variety of special programs of interest to students and faculty. Personnel within Student Services also serve in a consultative capacity to academic advisers and academic departments.

Counseling Services

Counseling services provide assistance without charge regarding personal problems of an academic, vocational, or emotional nature for all students who are officially enrolled at the University. Consultation with a professional counselor is voluntary and all counseling interviews are treated in a confidential manner. Initial appointments are arranged promptly and may be extended to include several regular individual interviews, but priority is given to emergency and initial contacts. "Drop-in" counseling is available during the central hours of the day without appointment. Psychological testing is provided upon recommendation of the counselor. When indicated, a student may be given a referral to a community mental health clinic, social agency, or private therapist. In every respect, the counseling staff attempts to assist the student to obtain more from available educational opportunities, to improve interpersonal and social relationships, to set and achieve appropriate vocational goals, and to increase personal satisfaction and self-worth. Group counseling is available in addition to consultation on an individual basis. The Counseling Service is located in AD 408 (884-3761).

Testing Services

The Testing Services office is located in AD 438 (884-3661). The office provides testing, scoring, consultation, and research services for students, faculty, and administration. Three general types of tests are administered: (1) national admission and matriculation tests for undergraduates and graduates, (2) individual tests for students referred by Counseling Services, and (3) other tests for CSUH offices, State Education Code Examinations, and tests requested through outside institutions.

The *ACT* (*American College Test*) or the *SAT* (*Scholastic Aptitude Test*) is required for all entering freshmen and transfer students with less than 90 acceptable quarter units. See pages 40-44 for admission requirements; see page 8 for a schedule of test dates.

The *State Education Code* requirements in American History, the Federal Constitution, and State and Local Government may be met by course

work or a special test constructed by CSUH academic departments. See page 86 for detailed information regarding Code requirements. Students may schedule appointments for taking the Code examinations by contacting the Testing Services office.

The *GRE* (*Graduate Record Examination*) is required by most graduate departments. Most departments request completion of the aptitude test (morning administration) and, in some cases, advanced tests (afternoon administration) before the student is accepted for graduate work. See the Graduate Catalog for further information. A schedule of test dates is provided on page 8 of this catalog.

The *MCAT* (*Medical College Admission Test*) is administered each May and September by the CSUH Testing Service. The *DAT* (*Dental Admission Test*) is administered by the Testing Service in October, January, and April. Contact the office for detailed information on both examinations.

For information concerning the following tests inquire at the Testing Services office: *LSAT* (*Law School Admission Test*), the *ATGSB* (*Admission Test for Graduate Study in Business*), the *GSFLT* (*Graduate School Foreign Language Test*) and the *Miller Analogies Test*.

In addition to tests administered by the Testing Service, a number of academic departments give special admissions, placement, and other tests to students. For further information, inquire in the departmental office, or see the departmental section of this Catalog (for undergraduate requirements) or the Graduate Catalog (for graduate requirements).

Student Health Services

In conformity with the Education Code of the State of California, the objective of our Student Health Services is to protect and preserve the physical and mental health of our students. This encompasses health education, the prevention and treatment of illnesses and injuries, and the provision of a safe and healthful environment.

The Student Health Center is open 8:00 a.m. to 5:00 p.m., Monday through Friday when CSUH is *in session*. Students *currently enrolled* are eligible for the out-patient services available. Requests for service should be on an appointment basis if possible.

Students are urged to avail themselves of the supplementary health insurance offered by the Associated Students, as this provides coverage for hospitalization, special laboratory tests, and for illness or injury when the Student Health Center is not open.

Athletic Injuries

The State of California, CSUH and the Associated Students do not assume nor acknowledge responsibility for injuries to students incurred in intercollegiate athletics. Injuries arising from intramural athletics are not covered by the intercollegiate athletic insurance policy, but may be treated at the Student Health Center.

Student Insurance

Voluntary insurance plans covering sickness and accidents are available to students. Further information may be obtained from the Associated Students Business Manager.

Student and Graduate Placement Center

The Placement Center basically offers three types of assistance to students and graduates. The first consists of helping *currently enrolled* students obtain part-time, temporary, and vacation employment during their attendance at the University.

Secondly, this Center, as well as the Counseling Center, provides career counseling to students who, prior to graduation, are uncertain as to their future career goals.

Finally, the Center provides assistance for students or graduates who have completed or are within two quarters of completing degree-requirements, and for students or graduates who have completed or are within two quarters of completing an approved credential program at California State University, Hayward. This assistance is in locating teaching, administration, or special service positions in the public schools and in college or various positions in business or government.

Special Programs

Under the direction of the Associate Dean of Students/Special Programs (fifth floor of the Administration Building), several programs are now available to students:

Student Advising Center: A Student Advising Center (first floor of the Administration Building) gives "unofficial" assistance to students in transcript evaluation, general education graduation requirements review and interpretation, and program planning. Manned by trained student volunteers, the office is open 5 days a week from 9 a.m. to 4 p.m. Students seeking information on requirements in their academic major should see an academic adviser in their major Department.

Handicapped Student Center: A Handicapped Student Center (Trailer Y-70 near South Science Building) serves to facilitate all services to the handicapped. A University-wide Advisory Committee for Services to Handicapped Students reviews and recommends programs and facilities alterations or additions. All handicapped students are urged to visit the Center for information on: vocational and rehabilitation counseling, Veterans Administration rehabilitation counseling, special wheel-chair maps, assistance with parking, registration, test taking, reading, etc.

Special P.E. classes are available and special library assistance can be secured. Counselors and advisers and student volunteers at the Center will assist students or prospective students with academic or personal problems. The Center is open on school days from 9 a.m. to 4 p.m. (Handicapped students can receive assistance with Registration by calling at the office of Associate Dean of Students, AD 567.)

Orientation: Orientation programs for new students and prospective students are planned each quarter. Coordinated by the Associate Dean of Students/Special Programs, student volunteers and University faculty personnel provide information folders, parent information sessions, tours of the campus, off-campus programs, special assistance in study skills, registration procedures, academic requirements and program planning. New students or prospective students seeking information about the University and its programs are invited to call at the Orientation Office located on the fifth floor of the Administration Building.

Student Travel: Students planning overseas travel are invited to counsel with the adviser in the Office of the Associate Dean of Students/Special Programs located on the fifth floor of the Administration Building. Literature and travel tips on lodging, transportation and customs are available.

Volunteer Programs: Student information on volunteer service projects on the campus or in the community is available in the Office of the Associate Dean of Students/Special Programs located on the fifth floor of the Administration Building.

Switchboard: A Cal State Switchboard and Rap Center is available to students seeking information, referral, or simply a place to "rap." The Center receives calls every school day from 9 to midnight. Sponsored by the University and the Associated Students, the Center is manned by trained student advisers. It is located in Trailer "D" near the Bookstore. The Switchboard phone number is 884-3911.

Intercultural Education and Resources Center

The Intercultural Education and Resources Center, Library, 2190, identifies disadvantaged and low income students who show potential and facilitates their entrance into the University, and assists them in successfully completing college. Supplemental services are offered in the form of recruitment, orientation, pre-registration advising, counseling and advising, and tutoring.

Students who have a financial disability or who may not meet regular admission requirements but can offer evidence of their ability to achieve satisfactorily at the college level are invited to make inquiries about the Educational Opportunity Program (EOP) or the Special Admissions Program.

Special Services Project

The Intercultural Education and Resources Center through its Special Services Program provides a variety of educational services for disadvantaged and low income students. The program includes supportive academic services, development of experimental programs, and cultural activities. The purposes of the program are: to assist the program participants in meeting their various educational needs; to build self confidence; to provide the opportunity for successful academic achievement and graduation; to offer career counseling and guidance; and to encourage students to challenge and excel in subject areas critical to community needs. The program

seeks to meet these objectives by furnishing tutorial assistance, counseling, writing and clerical assistance, academic program planning, and information regarding entrance to graduate and professional schools.

In addition, the Center provides part-time employment for students as tutors or clerical and staff assistants.

Cal State Children's Center

Child care is available to students, faculty, and staff for pre-school children aged 2 years, 6 months to 5 years, 9 months. The Center is ordinarily open 7:30 a.m. to 5:30 p.m. every school day. It is located at 27287 Patrick Avenue, Hayward, across from George Weekes Park, five minutes from campus.

This State licensed program provides both a relaxed family atmosphere and a stimulating educational program, under the supervision of a paid professional staff supplemented by volunteers from many Departments on campus.

The Center is jointly funded by parent fees and an annual subsidy from the Associated Student Body fees.

For information and registration call the Center at 785-3766 or call the Associated Student Office at 884-3901.

Transcripts

Official transcripts of course work taken at California State University, Hayward (including extension and summer session courses) are available in the Records Office. Requests for transcripts must be in writing and bear the signature of the student whose record is requested. There is a fee of \$1.00 for each transcript requested. A work-in-progress report, listing classes in which a student is currently enrolled, is available free of charge when requested with a transcript.

(See page 39 for *Transcripts From Other Institutions*.)

Student Financial Aids Office

The Student Financial Aids Office coordinates all University Administered Financial Assistance Programs and Scholarships.

Loans and Grants: Students with demonstrable financial need may be eligible for one or more of the following aid programs: National Direct Student Loans, Federally Insured Student Loans, Federal Educational Opportunity Grants, California State Educational Opportunity Grants, Law Enforcement Assistance Loans and Grants, Nursing Loans and Grants. In addition to the long term loans and grants listed above, the Student Financial Aids Office administers a short term (30 days) emergency loan and an intermediate term (9 month) Foreign Student Loan. A maximum of \$50 may be awarded from the emergency loan fund with repayment within 30 days with no interest charges. A maximum of \$200 may be awarded from the Foreign Student Loan Fund with repayment within nine months with no interest charges.

Work-Study Program: The University Work-Study Program is an attempt to provide financial aid for eligible students through combining the earnings from part-time employment, on or off campus, with other forms of financial assistance to enable students to meet their educational expenses without the necessity of incurring an unduly heavy burden of indebtedness. Students wishing to participate in this program must be determined eligible by the Student Financial Aids Office, i.e., be determined to have a certain minimum level of financial need. The work-study application and application procedure is the same as that of the other aid programs above.

Financial Aids Applications: Applications for Financial Aid may be obtained upon request from the Student Financial Aids Office, Room 545 of the Administration Building. Students applying for admission under the common admissions procedures of The California State University and Colleges have an opportunity to request financial assistance as a part of the application procedure. The University is a member of the College Scholarship Service (CSS). The CSS assists in the initial evaluation of the student's financial need and determination of resources available to meet this need. To facilitate this determination it may be necessary that a student file a Student Financial Statement, or Parent's Confidential Statement with CSS. The processing of these documents may take as long as six weeks, the student is therefore advised to file for financial assistance early. Applications for new students are normally due in the Student Financial Aids Office during the month of March. Please check with that office for exact application dates and procedures.

Scholarships

A limited number of scholarships are awarded to qualified students attending California State University, Hayward. Recipients are selected by the University Scholarship Committee on the basis of scholarship, financial need and the criteria established by the donor. Information concerning applications, etc., is available in the Financial Aids Office.

Alan Pattee Scholarship

Children of deceased public law enforcement or fire suppression employees, who were California residents and who were killed in the course of law enforcement or fire suppression duties, are not charged fees or tuition of any kind at any California State University or College, according to the Alan Pattee Scholarship Act, *Education Code* Section 23762. Students qualifying for these benefits are known as Alan Pattee scholars.

Housing

California State University, Hayward has no on-campus housing. Therefore, a major function of the University housing program is to act as an informational service for students in search of living accommodations. Due to a shortage of housing in the Hayward area, it is helpful to know where and how to begin looking and some general guidelines to follow. Through direct contact with a student, his housing needs can be determined in line

with what he feels he can afford and direct steps can be taken to help him obtain satisfactory housing.

Off-Campus Residence Hall: Adjacent to the campus is a University approved residence hall, accommodating 304 men and women students. It has dining and recreational facilities. Parking is available at a minimal fee to all residents. There are a limited number of work-opportunity listings available for interested students.

Other Off-Campus Housing: Card-file listings of off-campus accommodations are available in the Housing Office. These listings are revised daily and include furnished and unfurnished houses, apartments, rooms with kitchen privileges, and rooms (with and without board). These accommodations are not inspected by CSUH. The University acts only as an information agency and assumes no responsibility for the adequacy of its off-campus listings. Most of these listings are in the City of Hayward and surrounding communities. It is suggested that prospective students visit the University to make these living arrangements as information about these listings cannot be mailed.

Foreign Students

Students from other countries should consult with the Office of Admissions and Records on matters affecting their visas, eligibility for employment, and any special academic requirements for foreign students.

All matters pertaining to applications and admissions for foreign students are handled by the Office of Admissions and Records. [See *Admission of Foreign Students*, page 45].

STUDENT ACTIVITIES

The essence of collegiate life is the proper balancing of both the formal classroom experience with the informal collegiate experiences. The University provides this balance by encouraging student participation through a variety of activities designed to afford the participant intellectual, cultural, recreational and social opportunities. As part of that program the Student Activities Office coordinates the University student activities calendar, assists in planning and registration of student events, and the development of clubs and organizations.

The Activities staff is available to provide assistance to recognized student organizations and their officers, as well as individual students interested in developing new campus activities. In addition, the Activities personnel serve as consultants in the on-going campus programs. General information related to student organizations and/or how to get involved in their activities can be obtained from the Activities Office, AD 459, or call 884-3871.

Student Government

Associated Students: Every registered student becomes a member of the Associated Students and is entitled to participate in its activities and to vote in all special and general student elections. The Executive Officers (elected

annually) are the President, Vice President, and Secretary. The Student Council is composed of the Executive Officers, Representatives-at-Large, and Representatives from each of the academic schools of CSUH. If you desire to be involved in student government contact the Associated Students office, Union Building, or call 884-3901.

Student Representatives to Faculty Senate and Senate Committees: Student representatives now serve on all faculty committees except the Faculty Affairs Committee and Promotion and Tenure Committees. For appointment to these committees contact should be made with the President of the Associated Students, Union Building, or call 884-3901.

The Student Council: Serves as the Executive Branch of the Student Government, appoints standing committees, charters clubs and organizations, prepares and supervises the budget of the Associated Students and works with the University in the planning, executing and evaluation of many of its many programs and projects.

The Council receives nominations for and makes appointments of student members to a variety of boards, commissions and committees which include administrative, faculty and student officers. Some of the more important of these include the Cultural and Athletic Board, the Auxiliary Foundation and the Publications Board.

School Councils: The students of each school in the University elect a Council which has responsibility for developing out-of-class activities of interest to the undergraduate and graduate students of that School. A portion of each student's student body fee is used to support activities as planned by the Council and its committees. Every student is encouraged to participate in the activities of his school, as well as Associated Student activities. For further information contact the Associated Students, Union Building, or call 884-3901.

Clubs and Organizations: The University encourages the establishment of a variety of clubs and organizations. The opportunities provided can enrich the educational experience by offering a further means of intellectual as well as personal growth. The various activities sponsored by our approximately 60 chartered campus organizations incorporate a wide range of interests. Information regarding the formation of new campus organizations, the various activities of current clubs and the names of their officers can be secured through the Activities Office, AD 459, or call 884-3871.

Student Publications: The Associated Students sponsor the *Pioneer*, the student newspaper. This publication is produced in conjunction with the academic curriculum and under the policy control of the Publications Board.

Intercollegiate Athletics

CSUH is a member of the Far Western Athletic Conference and competes on the varsity level in baseball, basketball, cross country, football, golf, gymnastics, judo, rugby, soccer, swimming, tennis, track, volleyball, water polo, and wrestling. Cal State is also represented in freshman basketball.

The University is a member of the Northern California Intercollegiate Athletic Conference and offers a varied program of women's intercollegiate activities including basketball, gymnastics, judo, swimming, tennis, track, softball, volleyball, and field hockey.

In addition to the above activities there are also a number of dance performance groups in modern, ethnic, and historical forms. Co-educational teams are fielded in badminton and fencing.

Physical Recreation

The purpose of Physical Recreation is to encourage all students to participate in some form of physical activity. The University offers a wide variety of opportunities, programs and facilities as evidence of its commitment to this philosophy. For information regarding individual or team activities contact the Athletic Office, PE 103 or call 884-3038; for information on dance groups call 884-3066.

Cultural Activities

California State University, Hayward is a community which provides diverse co-curricular opportunities. There are excellent professional programs provided through departments and schools and supplemented by open programs on a variety of current topics. Lectures, music, drama, art, recreation and other programs are also sponsored by student organizations. These programs are encouraged to give students opportunities for enrichment and enjoyment through personal experience and to help students through lectures, films and other media to understand the cultural, economic and social world around them.

SPECIAL FACILITIES

Moss Landing Marine Laboratories

Instruction in marine biology, geology, meteorology, oceanography and other marine sciences is offered at the Moss Landing Marine Laboratories in conjunction with five other cooperating California State Universities and Colleges. Full time course offerings are available for resident credit, and the facilities are used to supplement courses taught on the Hayward campus. The laboratories are located 82 miles south of Hayward on Monterey Bay. See "Marine Sciences," page 208. See page 325 for courses offered at Moss Landing.

The Library

The University Library serves the academic community by providing resources, facilities and services which support the curriculum. The Library's collections consist of over 450,000 books, 2,900 periodical subscriptions, and 150,000 government publications, newspapers, microfilm, recordings, and maps. They are housed in open stacks interspersed with ample individual and group study space.

Instructional Media Services

Instructional Media Services has a collection of more than 10,000 instructional materials: motion pictures, filmstrips, slides, transparencies, study prints, art reproductions, tape and disc recordings, and kits. These materials, in addition to rear screen projection facilities and the equipment needed to use them, are available to the faculty and students.

This department has acquired the television equipment necessary for recording and re-playing either "live" or broadcast television programs.

Professionally trained personnel are available to assist or advise faculty and students in the preparation and use of the facilities and equipment.

Instructional Media Services, located in the Library Building, also provides photographic and graphic preparation, and duplication of materials.

Campus Data Center

(Music 2503, South Science 148 and Administration Building 387)

Campus computer facilities consist of a CDC 3150 Computer System and access to three larger remote capabilities. User facilities are concentrated in AD B101 and B131, but interactive computing terminals are available in Music 2503, serving the School of Business and Economics, and in South Science 148. This timesharing service, which is also available in the main user facility in the Administration Building, is provided by a CDC 3170 dual computer system at California State University, Northridge. The same Distributed Computing Network that services timesharing also connects the campus to the CDC 3170-dual 3300 system of the State University Data Center at the Chancellor's Office in Los Angeles and provides possible access to a large IBM 360 system at U.C.L.A. A variety of higher level languages is available both in batch and interactive modes as well as assembly language capabilities. Computer service is available to all appropriate instructional, research, and administrative needs. Instruction in computing, data processing, programming, etc., is available to students and staff through regular classes. Short courses for faculty, students and staff are offered at the beginning of each quarter, as needed.

Ecological Field Station

For studies in field ecology and animal behavior, the Ecological Field Station and its environs offer headquarters for graduate, as well as advanced undergraduate instruction and research. This facility, opened in early 1970, is located in the extreme southeastern part of the campus, in the vicinity of "Garin Woods," a 35-acre preserve of woodland-brush owned by the Research Foundation of California State University, Hayward. Adjacent to the Station is also an extensive grassland area.

The building, of approximately 1150 square feet, has a limited number of research cubicles and animal enclosures which are assigned on a quarterly to annual basis by the Field Station Committee (Department of Biological Sciences). The Committee also coordinates class and individual projects in the area.

Parking

Campus parking facilities are available to students with the purchase of parking permits at the cost of \$10 per quarter. Parking permits may be purchased during Registration or at the Cashier's Office, lobby, Administration Building. A coin-operated parking lot at a cost of 25 cents per entry and a limited number of metered spaces at 5 cents per hour are available on campus.

Commuter-Computer

CSUH promotes a computerized car-pool system devised by the Conservation-Ecology Club at the University. It enables students in a specified area to contact each other to make arrangements for rides to the University. The commuter-computer cards are in the registration packet. A compilation of rides and riders is published for student use shortly after registration. Copies of the Commuter Computer are always available in the office of the Associate Dean of Students/Special Programs, AD 567.

Calculator Lab

The School of Science operates a calculator room in South Science 148. A variety of modern electronic desk calculators is available for student and faculty use. An attendant is on duty during scheduled hours to help students operate the simpler calculators. Advanced and programmable calculators are available to students of an appropriate level who have had training in their use. Although science faculty and students taking courses in the School of Science have first priority in using this facility, every effort is made to accommodate other students and faculty.



ADMISSION TO CSUH

The following regulations and procedures governing admission to California State University, Hayward are subject to change without prior notice if necessary so that university policies are consistent with the policies of the Trustees of The California State University and Colleges.

GENERAL INFORMATION

NOTE: Students are held individually responsible for information contained in these pages. Failure to read and comply with the admission policies, regulations, and procedures will not exempt a student from whatever penalties he may incur.

Requirements for admission to *California State University, Hayward* are in accordance with Title 5, Chapter 1, Subchapter 3, of the *California Administrative Code*. A prospective applicant who is unsure of his status under the requirements is encouraged to consult a high school or college counselor or the Admissions Office. Applications may be obtained from the Admissions Office at any of the campuses of The California State University and Colleges or at any California high school or community college.

Undergraduate Application Procedures

Prospective undergraduates, whether applying for part-time or full-time programs of study, in day or evening classes, must file a complete application including all the required forms and fees as described in the application booklet. The \$20.00 non-refundable application fee should be in the form of a check or money order payable to The California State University and Colleges. Undergraduate applicants may file only at their first choice campus. Alternate choice campuses and majors may be indicated on the application, but *an applicant should list as alternate campuses only those campuses of The California State University and Colleges that he will attend if his first choice campus cannot accommodate him*. Generally, alternate degree majors will be considered at the first choice campus before an application is redirected to an alternate choice campus. Applicants will be considered automatically at the alternate choice campus if the first choice campus cannot accommodate them. *Transcripts and other supporting documents should not be submitted until requested by the campus*.

Declaration of Objective

At the time of applying for admission, each upper-division undergraduate student is required to state an objective (major and degree) to be pursued

at this University. After the student has declared a specific objective and has been admitted to the University, faculty advisory services are available to assist the student in attaining his goal, but the responsibility for meeting the specific requirements rests with the student. A lower-division undergraduate student may be admitted as an "Undeclared Major" but is required to declare a major objective no later than the last quarter of his sophomore year.

Category Quotas and Systemwide Impacted Programs

Application category quotas have been established by some campuses, in some majors, where the number of applicants is expected to exceed campus resources. All applications received in the initial filing period will receive equal consideration for such categories. Certain undergraduate programs (architecture, natural resources, nursing, and physical therapy) are impacted throughout the 19-campus system, and applicants to such programs are expected to meet supplementary admission criteria for admission to these programs. Applicants to these major programs will be sent further information by the campuses about the supplementary criteria to be used, and how and when applicants must meet them.

Post-Baccalaureate Application Procedures

All applicants for any type of post-baccalaureate status (e.g., master's degree aspirants, those seeking credentials, and those interested in taking courses for professional growth, etc.) must file a complete application within the appropriate filing period. *Second baccalaureate degree aspirants should apply as undergraduate degree applicants*. A complete application for post-baccalaureate status includes all of the materials required for undergraduate applicants plus the supplementary graduate admissions application. Post-baccalaureate applicants who completed undergraduate degree requirements and graduated the preceding term are also required to complete and submit an application and the \$20.00 non-refundable application fee. Since applicants for post-baccalaureate programs may be limited to the choice of a single campus on each application, redirection to alternative campuses or later changes of campus choice will be minimal. In the event that a post-baccalaureate applicant wishes to be assured of initial consideration by more than one campus, it will be necessary to submit a separate application (including fee) to each. Applications may be obtained from the Graduate Studies Office of any California State University or College campus in addition to the sources noted for undergraduate applicants.

Application Filing Periods

Term	Initial Filing Period	Extended Filing Period
Summer	the previous February	March until filled
Fall	the previous November	December until filled
Winter	the previous June	July until filled
Spring	the previous August	September until filled

Semester Calendar

Chico	San Diego	Bakersfield	Cal Poly, Pomona
Fresno	San Francisco	Dominguez Hills	San Bernardino
Fullerton	San Jose	Hayward	Cal Poly, San
Long Beach	Sonoma	Humboldt	Luis Obispo
Northridge			Los Angeles
Sacramento	Stanislaus*		

Quarter Calendar

Initial Filing Period

All applications postmarked or received during the initial filing period will be given equal consideration within established enrollment categories and quotas. There is no advantage in filing before the initial filing period. Applications received before the initial filing period may be returned, causing a delay in processing. With the exception of the impacted undergraduate program areas (architecture, natural resources, nursing, and physical therapy), most campuses will be accepting applications well into the extended filing periods until quotas are filled.

Space Reservations

Applicants who apply during the initial filing period and who can be accommodated will receive a space reservation. A space reservation is not a statement of admission but is a commitment by California State University, Hayward to admit the student once eligibility has been determined. The space reservation directs the applicant to arrange to have appropriate records forwarded promptly to the Office of Admissions. Applicants should not request that any records be forwarded until they have received a space reservation notice.

Redirection

Applications of students who cannot be accommodated at their first choice campus will automatically be redirected to their second choice, and, if they cannot be accommodated there, to their third choice, etc.

Hardship Petitions

There are established procedures for consideration of qualified applicants who would be faced with an extreme hardship if not admitted. Prospective hardship petitioners should contact the Admissions Office regarding specific policies governing hardship admission.

* The Stanislaus campus is on a modified semester plan, with an "early" fall semester, concluding before the December holidays, an interim term of one month, and a regular spring semester.

Extended Filing Period

Campuses not filling category quotas during the initial filing period will continue to accept applications during the extended filing period until quotas are filled. Application priority within the extended period will be granted in chronological order of application receipt by the campuses.

NOTE: The University reserves the right to determine whether a transcript will be accepted as official. All transcripts and records submitted for admission or readmission become the property of the University and cannot be returned to the applicant or forwarded to another institution except in cases of redirection within The California State University and Colleges System.

Failure to declare enrollment in and file official transcripts from each college or university attended will constitute grounds for denial of admission, readmission, or dismissal from the University.

Transcripts from Other Institutions

Recipients of space reservation from California State University, Hayward will be requested to submit test scores and/or transcripts as follows.

1. First-time freshmen are required to submit transcripts of high school work and scores from the ACT or SAT examinations. Applicants still in attendance at high school should submit transcripts of work through the first semester of the 12th grade.
2. All undergraduate transfer applicants, including applicants for a second baccalaureate degree, must submit two official transcripts from each college or university previously attended. Non-objective, post-baccalaureate students must file an official degree statement, or an official transcript bearing a degree statement, from the accredited institution awarding the degree.
3. Applicants as transfer students with less than 84 transferable quarter units must, in addition to 2., above, file one official transcript showing grades earned during the last three years of high school and scores from the ACT or SAT examinations.

Graduate Admission Requirements

Unclassified Graduate Standing

For admission to graduate standing as an Unclassified Graduate Student, a student shall have completed a four-year college course and hold an acceptable baccalaureate degree from an accredited institution; or

shall have completed equivalent academic preparation as determined by appropriate campus authorities; and must satisfactorily meet the professional, personal, scholastic, and other standards for graduate study, including qualifying examinations, as the appropriate campus authorities may prescribe.

Admission to a State University or College with Unclassified Graduate Standing does not constitute admission to graduate degree curricula.

Classified Graduate Standing

A student who has been admitted to a State University or College under the Unclassified Graduate requirement above may, upon application, be admitted to an authorized graduate degree curriculum if he satisfactorily meets the professional, personal, scholastic, and other standards for admission to the graduate degree curriculum, including qualifying examinations, as the appropriate campus authorities may prescribe. Only those applicants who show promise of success and fitness will be admitted to graduate degree curricula, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness, as determined by the appropriate campus authorities, shall be eligible to continue in such curricula. Students whose performance in a graduate degree curriculum is judged to be unsatisfactory by the authorities of the campus may be required to withdraw from all graduate degree curricula offered by the campus.

Non-Objective Status

In exceptional cases a student who has completed a four year college course and holds an acceptable baccalaureate degree from an accredited institution or who has completed equivalent academic preparation as determined by appropriate California State University authorities, may be admitted to the University as a non-objective post-baccalaureate student. Non-objective status does not imply admittance to graduate standing or to a particular graduate degree program.

UNDERGRADUATE ADMISSION REQUIREMENTS

First-time freshmen eligibility is governed by an eligibility index. The index is computed using the high school grade point average on all course work completed in the last three years of high school, exclusive of physical education and military science; and the ACT composite, or the SAT total score. The full table of grade point averages, with corresponding test scores for California graduates and the equation by which the index is computed, is reproduced on p. 43. A somewhat higher eligibility index is required of non-California residents; see p. 41. Test results of either the CEEB Scholastic Aptitude Test (SAT) or the American College Testing Program examination (ACT) are acceptable in establishing eligibility.

Registration forms and test dates for either test may be obtained from

school or college counselors, from the addresses below, or from the campus testing offices. For either test, submit the registration form and fee at least one month prior to the test date.

ACT Address

American College Testing Program, Inc.
Registration Unit, P.O. Box 168
Iowa City, Iowa 52240

SAT Address

College Entrance Examination Board
P.O. Box 1025
Berkeley, California 94770

First-Time Freshmen (California high school graduates and residents)

An applicant who is a graduate of a California high school or a legal resident for tuition purposes must have an eligibility index which places him among the upper *one-third* of California high school graduates. The minimum acceptable index for applicants using the SAT score is 3072; using the ACT score, 741.

First-Time Freshmen (high school graduates from other states and U.S. possessions)

The admissions requirements for non-resident applicants are more restrictive than those for California residents. An applicant who is a non-resident for tuition purposes and is a graduate of a high school outside California must have an eligibility index which places him among the upper *one-sixth* of California high school graduates. The minimum acceptable index for non-resident applicants using the SAT score is 3402; using the ACT score, 826.

First-Time Freshmen (graduates of secondary schools, etc., in foreign countries)

An applicant who is a graduate of a secondary school in a foreign country or who has equivalent preparation in a foreign country, may be admitted as a first-time freshman if his preparation and ability are such that in the judgment of the appropriate campus authority, the probability of his academic success at the campus is equivalent to that of eligible California high school graduates.

First-Time Freshmen (high school non-graduates)

An applicant who is over 18 years of age, but who has not graduated from high school will be considered for admission only when preparation in all other ways is such that the campus believes promise of academic success is equivalent to that of eligible California high school graduates.

Undergraduate Transfers (resident and non-resident)

Beginning fall term 1974, transfer eligibility is based on *transferable* college units attempted, rather than on *all* college units attempted. The California Community College transfer should consult his college counselor for information on transferability of courses. An applicant in good standing

at the last college attended may be admitted as an undergraduate transfer if he meets either of the following requirements:

1. He was eligible for admission in freshman standing (see First-Time Freshman requirements) and has earned an average grade of "C" (2.0 on a scale where A = 4.0) or better in all transferable college units attempted.
2. He has completed at least 56 transferable semester units or 84 transferable quarter units with an average grade of "C" (2.0 on a scale where A = 4.0) or better if a California resident. Non-residents must have a G.P.A. of 2.4 or better.

Institutions not fully accredited will not be used in determining admission eligibility nor will they normally be used to meet graduation requirements. However, after completing 30 quarter units in residence, a student may petition to have such units accepted for baccalaureate credit. Petitions will be considered in light of course content, the quality of performance, the nature of the institution, and the appropriateness of the courses to the CSUH curriculum.

Credits earned in accredited community colleges will be evaluated by the Office of Admissions and Records in accordance with the following provisions:

1. not more than 105 quarter (70 semester) units of credit may be allowed for community college work; community college credit earned after the student has earned 105 quarter units at one or more community colleges will be used for determining grade point average and *may be* used to satisfy subject requirements, but *may not* be applied toward the total units required for the bachelor's degree;
2. credit for one course in education is the maximum credit for professional education courses which may be transferred from the community college; no other credit is allowed for courses in professional education.
3. California State University, Hayward and California community colleges have written agreements relative to equivalency of courses; students planning to transfer to CSUH should consult their community college counselors if they have questions about transfer courses.
4. Certification of the extent of completion of the General Education Breadth Requirements may be submitted from the California community college from which the student is transferring. Students who submit a partial general education certificate will be evaluated according to current certification agreements with the community colleges.

Eligibility Index

The following chart is used in determining the eligibility of graduates of California high schools (or California legal residents) for freshman admission to a CSUC campus. Grade point averages are based on work completed in the last three years of high school, exclusive of physical education and military science. Scores shown are the SAT Total and the ACT Composite. Students with a given G.P.A. must present the corresponding test score.

Conversely, students with a given ACT or SAT score must present the corresponding G.P.A. in order to be eligible.

The minimum eligibility index is: SAT = 3072 and ACT = 741. The index is computed either by multiplying the grade point average by 800 and adding it to the total SAT score, or multiplying the grade point average by 200 and adding it to 10 times the composite ACT score.

Eligibility Table for California Residents

ADMISSIONS TABLE FOR CALIFORNIA HIGH SCHOOL GRADUATES
OR CALIFORNIA LEGAL RESIDENTS

GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	
(—)*				2.80	19	832	2.39	27	1160
3.20	11	512	2.79	19	840	2.38	27	1168	
3.19	11	520	2.78	19	848	2.37	27	1176	
3.18	11	528	2.77	19	856	2.36	27	1184	
3.17	11	536	2.76	19	864	2.35	28	1192	
3.16	11	544	2.75	20	872	2.34	28	1200	
3.15	12	552	2.74	20	880	2.33	28	1208	
3.14	12	560	2.73	20	888	2.32	28	1216	
3.13	12	568	2.72	20	896	2.31	28	1224	
3.12	12	576	2.71	20	904	2.30	29	1232	
3.11	12	584	2.70	21	912	2.29	29	1240	
3.10	13	592	2.69	21	920	2.28	29	1248	
3.09	13	600	2.68	21	928	2.27	29	1256	
3.08	13	608	2.67	21	936	2.26	29	1264	
3.07	13	616	2.66	21	944	2.25	30	1272	
3.06	13	624	2.65	22	952	2.24	30	1280	
3.05	14	632	2.64	22	960	2.23	30	1288	
3.04	14	640	2.63	22	968	2.22	30	1296	
3.03	14	648	2.62	22	976	2.21	30	1304	
3.02	14	656	2.61	22	984	2.20	31	1312	
3.01	14	664	2.60	23	992	2.19	31	1320	
3.00	15	672	2.59	23	1000	2.18	31	1328	
2.99	15	680	2.58	23	1008	2.17	31	1336	
2.98	15	688	2.57	23	1016	2.16	31	1344	
2.97	15	696	2.56	23	1024	2.15	32	1352	
2.96	15	704	2.55	24	1032	2.14	32	1360	
2.95	16	712	2.54	24	1040	2.13	32	1368	
2.94	16	720	2.53	24	1048	2.12	32	1376	
2.93	16	728	2.52	24	1056	2.11	32	1384	
2.92	16	736	2.51	24	1064	2.10	33	1392	
2.91	16	744	2.50	25	1072	2.09	33	1400	
2.90	17	752	2.49	25	1080	2.08	33	1408	
2.89	17	760	2.48	25	1088	2.07	33	1416	
2.88	17	768	2.47	25	1096	2.06	33	1424	
2.87	17	776	2.46	25	1104	2.05	34	1432	
2.86	17	784	2.45	26	1112	2.04	34	1440	
2.85	18	792	2.44	26	1120	2.03	34	1448	
2.84	18	800	2.43	26	1128	2.02	34	1456	
2.83	18	808	2.42	26	1136	2.01	34	1464	
2.82	18	816	2.41	26	1144	2.00	35	1472	
2.81	18	824	2.40	27	1152	(—)†			

* Students earning grade-point averages above 3.20 are eligible for admission.

† Students earning grade-point averages below 2.0 are not eligible for admission.

Admission of Veterans

Veterans of the U.S. Armed Forces who are California residents but who do not meet normal entrance requirements may be considered for admission if in the judgment of CSUH authorities the veteran has the potential to perform satisfactorily on the collegiate level. In order to be considered under this provision, the veteran must have served 181 days active duty since 1955 with a discharge or separation under conditions other than dishonorable.

Veterans wishing to be considered under this provision should accompany their regular application for admission with supporting documents, including separation papers (DD 214), and a letter petitioning for special consideration.

Application for Readmission

All former students of California State University, Hayward who have not registered for two or more consecutive quarters must apply for readmission and be admitted through the normal admissions process before they will be allowed to register. At the same time, they must submit official transcripts from each institution attended since leaving the University. Students who have been enrolled only in Summer Session or in Extension courses must follow the regular admission procedures for new students.

Admission of Summer Session Students

Students who wish to enroll only for Summer Session courses are not required to file a formal application for admission to the University or to file transcripts. Students are required to satisfy the prerequisites for the particular courses in which they enroll. See also, *Summer Session*, page 21.

Educational Opportunity Program

An applicant for admission who is not otherwise eligible for admission to the University may be considered for admission as a first-time freshman or lower-division transfer student, provided that he is from a low-income family and has been identified as having the potential to perform satisfactorily on the collegiate level. The University's Intercultural Education and Resources Center provides assistance to students admitted to the Educational Opportunity Program. Educational clearinghouses, high schools, colleges, and other agencies assisting Educational Opportunity Program applicants should advise students applying to this program to forward applications and other materials to the Director, Educational Opportunities Program.

Educational Opportunity Program applications will be reviewed and selection of applicants will be made based on the University's determination that selected applicants evidence sufficient potential to perform college level work.

Admission as a Foreign Student

Each applicant must file a completed application together with the application fee, a financial statement, and the necessary transcripts from each educational institution previously attended. Submission of the Test of English as a Foreign Language (TOEFL) score is required. TOEFL replaces the ACT or SAT as an admission requirement for foreign students.

Admission of students who have not attended U.S. institutions is based upon demonstration of preparation equivalent to that which is required of California residents.

Applicants from outside of the U.S. may be notified to contact a representative of one of the several bi-national organizations for the purpose of an interview. The results of the interview will be forwarded to the CSUH Admissions Office, and will be used in determining eligibility for admission.

Transfer foreign students from other U.S. educational institutions must follow the above requirements with the exception of the requirement for the Overseas Interview. Transfer foreign students will follow the regular admissions procedure as directed under *Admission as an Undergraduate Transfer*, page 41.

Foreign students applying from outside the U.S. will be admitted in the Fall Quarter only. Those transferring from other U.S. institutions may apply for any quarter subject to limitations of space at CSUH.

Graduate foreign students applying from outside the U.S. follow the procedures as outlined above for overseas applicants. *Graduates of U.S. educational institutions* must meet the foreign student transfer requirements as listed above. All applicants for Graduate Standing also must meet the admission requirements for graduate students given below. Foreign student graduate applicants must apply for and be admitted to a specific graduate program. They may not register in non-objective post baccalaureate status.

Admission to Public School Credential Programs

Admission to the credential programs in teacher education, school administration and supervision, and pupil personnel services is based upon criteria established by the School of Education. See *School of Education* section for criteria which will be used in admitting students to programs.

Admission as a Non-Objective Post Baccalaureate Student

Students holding a Bachelor's degree from an accredited institution may take courses for credit on the post baccalaureate level as room in courses permits. Work taken in the non-objective status does not apply toward degree credit unless accepted as such by the major department after formal admission to a specific program has been applied for and approved. For details on application to graduate programs see the *Graduate Catalog*.

Admission Requirements for Graduate Students

Applicants may be admitted as Graduate students if:

1. They have completed a four-year college course and hold an acceptable baccalaureate degree from an accredited institution, or shall have completed equivalent preparation as determined by the appropriate authorities, and
2. They have 2.5 GPA in all undergraduate work, and
3. They otherwise satisfy the appropriate department they have the qualifications for successful graduate work.

For information on graduate admission, see the *Graduate Catalog*.

Statement of Residence

An official statement of residence, which is part of the official California State University and Colleges common application form, must be completed and filed by each student with his application for admission or readmission. These statements may not be completed by another person. Final decisions relative to residence status will be made by the CSUH attorney and will be based upon the residence laws of the State of California. Students will be held responsible for reporting any changes which affect their residence classification.

Determination of Residence for Nonresident Tuition Purposes

The following statement of the rules regarding residency determination for nonresident tuition purposes is not a complete discussion of the law, but a summary of the principal rules and their exceptions. The law governing residence determination for tuition purposes by The California State University and Colleges are found in *Education Code Sections 22800-22865, 23753.1, 23754-23754.4, 23758.2, 23752*, and in *Title 5 of the California Administrative Code, Article 4* (commencing with Section 41901) of Subchapter 5 of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Admissions Office.

Legal residence may be established by an adult who is physically present in the state while, at the same time, intending to make California his permanent home. Steps must be taken at least one year prior to residence determination date to evidence the intent to make California the permanent home with concurrent relinquishment of the prior legal residence. Some of the relevant indicia of an intention to establish and maintain California residence may be established by registering to vote and voting in elections in California; satisfying resident California state income tax obligations on total income; ownership of residential property or continuous occupancy or letting of an apartment on a lease basis where one's permanent belongings are kept; maintaining active resident memberships in California professional or social organizations; maintaining California vehicle plates and operator's license; maintaining active savings and checking accounts in California banks; maintaining permanent military address and home of

record in California if one is in the military service, etc.

The student who is within the state for educational purposes only does not gain the status of resident regardless of the length of his stay in California.

In general, the unmarried minor (a person under 18 years of age) derives legal residence from his father (or from his mother if the father is deceased), or, in the case of permanent separation of the parents, from the parent with whom the minor maintains his place of abode. The residence of a minor cannot be changed by act of the minor or that of the minor's guardian, so long as the minor's parents are living.

A man or a woman may establish his or her residence; marriage is not a governing factor.

The general rule is that a student must have been a California resident for at least one year immediately preceding the residence determination date in order to qualify as a "resident student" for tuition purposes. A residence determination date is set for each academic term and is the date from which residence is determined for that term.

The residence determination dates for the 1974-75 academic year are:

Quarter Term Campuses

Fall: September 13, 1974
Winter: January 1, 1975
Spring: March 28, 1975
Summer: June 18, 1975

Semester Term Campuses

*Winter: January 1, 1975
Spring: January 15, 1975

If you have any questions respecting the applicable date, the campus Admissions Office can give you the residence determination date for the term for which you are registering.

There are several exceptions for nonresident tuition. Some of the exceptions provide for:

1. Persons below the age of 19 whose parents were residents of California but who left the state while the student was still a minor. When the minor reaches age 18, the exception continues for one year to enable the student to qualify as a resident student.
2. Persons below the age of 19 who have been present in California for more than a year before the residence determination date, and entirely self-supporting for that period of time.
3. Persons below the age of 19 who have lived with and been under the continuous direct care and control of an adult, not a parent, for the two years immediately preceding the residence determination date. Such adult must have been a California resident for the most recent year.
4. Dependent children and spouses of persons in active military service stationed in California on the residence determination date. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.

* Applies only to Winter term in Stanislaus experimental calendar.

The exception is not affected by transfer of the military person directly to a post outside the 50 states and District of Columbia.

5. Military personnel in active service stationed in California on the residence determination date for purposes other than education at state-supported institutions of higher education. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.
6. A student who is an adult alien is entitled to residence classification if the student has been lawfully admitted to the United States for permanent residence in accordance with all applicable provisions of the laws of the United States; provided, however, that the student has had residence in California for more than one year after such admission prior to the residence determination date. A student who is a minor alien shall be entitled to residence classification if both the student and the parent from whom residence is derived have been lawfully admitted to the United States for permanent residence in accordance with all applicable laws of the United States, provided that the parent has had residence in California for more than one year after acquiring such permanent residence prior to the residence determination date of the term for which the student proposes to attend the University.
7. Certain credentialed, full-time employees of school districts.
8. Full-time State University and Colleges employees and their children and spouses. This exception applies only for the minimum time required for the student to obtain California residence and maintain that residence for a year.
9. Certain exchange students.
10. Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the course of law enforcement or fire suppression duties.
11. A person in continuous full-time attendance at an institution who had resident classification on May 1, 1973, shall not lose such classification as a result of adoption of the uniform student residency law on which this statement is based, until the attainment of the degree for which currently enrolled.

Any student, following a final decision on campus on his residence classification, may make written appeal to:

Office of General Counsel
5670 Wilshire Boulevard
Suite 1260
Los Angeles, California 90036

within 120 calendar days of notification of the final decision on campus of his classification. The Office of General Counsel may make a decision on the issue, or it may send the matter back to the institution with instructions for a further review on campus. Students classified incorrectly as residents or incorrectly granted an exception from nonresident tuition are subject to

reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is subject to discipline pursuant to Section 41301 of Title 5 of the *California Administrative Code*. Resident students who become nonresidents, and nonresident students qualifying for exceptions whose basis for so qualifying changes, must immediately notify the Admissions Office. Applications for a change in classification with respect to a previous term are not accepted.

The student is cautioned that this summation of rules regarding residency determination is by no means a complete explanation of their meaning. The student should also note that changes may have been made in the rate of nonresident tuition, in the statutes, and in the regulations between the time this catalog is published and the relevant residence determination date.

Health Data

A new student pursuing a basic standard teaching credential, or a Master's degree, or planning to enter the student teaching or credential programs of CSUH must have a Student Health Record on file in the Student Health Services office. The Student Health Record is sent to the student at the time of acceptance. This record includes a health history which the student *must complete*. Included in the Health History must be a written confirmation of a negative tuberculin test or chest X-ray within the previous year.

The completed Student Health Record should be mailed in advance to the Student Health Center or presented at the time of registration. Returning and continuing students who have previously submitted a health record are not required to submit a new health record.

Cancellation of Admission

A student who is accepted for admission to CSUH for a given quarter and does not register, must reapply for admission. A subsequent application for admission must be in accordance with current admission requirements. Transcripts, test scores, and evaluations on file may be used with the new application (such documents are maintained for only two years). An application fee must be submitted with each new application for admission.

Credit for Extension and Correspondence Work

A maximum of 36 quarter (24 semester) units of extension and correspondence work may be counted toward graduation at California State University, Hayward. Any such units not earned at CSUH must be in courses which would be acceptable in CSUH baccalaureate degrees and must come from accredited institutions which would accept the units toward their own degrees.

No extension or correspondence credit may be applied toward the residency requirement. All extension and correspondence work will be used for determination of the grade point average.

Credit for Experience

No unit credit is allowed toward the bachelor's or master's degrees for practical experience. An exemption allowed for experience will not carry units of advanced standing nor diminish the number of units required for graduation. See also, *Credit by Examination*, page 65.

Credit for Military Training and USAFI

CSUH grants credit for military training in accordance with the recommendation of the American Council on Education. In order to receive such credit the student must present evidence by written certification from a recognized military authority, such as papers from a military separation center or an official copy of a diploma from a service school or USAFI transcript.

Advanced Placement

California State University, Hayward grants credit toward its undergraduate degrees for successful completion of examinations of the Advanced Placement Program of the College Entrance Examination Board. Students who present scores of three or better will be granted six semester units (nine quarter units) of college credit. (See page 63.)

ADVISING

Consulting With An Adviser

Every student who enters CSUH is assigned a faculty adviser by the department or committee housing his major. Undeclared majors are assigned faculty advisers by the Office of the Dean of Undergraduate Studies. Students must check with the department office or the Office of the Dean during the orientation period of their first quarter in attendance.

A first-time freshman, during his first quarter of attendance at CSUH, should develop a program with his adviser which will satisfy all requirements (general education, major, and minor, concentration, or option if required) for the degree. An undergraduate transfer student, following receipt of the University's evaluation of previous college credit, should develop with his adviser, a complete program of courses leading to the baccalaureate degree. This program should serve as a guide to the student throughout his university career and changes in program should not be made without the approval of the adviser.

For information on the catalog requirements under which a student may graduate, see page 86.

DEPARTMENTAL HONORS

The departmental honors programs, offered presently in the Departments of Child Development, English, History, and Political Science are upper-division programs designed to provide special courses and advanced, independent reading and research for superior students in the individual majors. Several other departments are now considering the development of programs. Inquiries should be addressed to the chairman of the department.

PRE-PROFESSIONAL TRAINING

Courses and programs offered in the various departments of the University are appropriate for entry into professional programs. Any student commencing work at California State University, Hayward with the intent of completing his training at another university or professional school should work closely with his advisers so that his pattern of courses meets the general pattern requirements of the profession, the specific requirements of the professional school of his choice, and the CSUH requirements for his major and baccalaureate degree.

Pre-law Studies

The study of law is a post-graduate professional program, usually requiring three years of full-time study beyond the completion of the bachelor's degree. No specific pre-law undergraduate program is required for admission to law schools.

Students intending to enter law school commonly complete undergraduate majors in political science, economics, history, philosophy, English or business administration. However, any recognized nonvocational major is acceptable to law schools. The pre-law student's undergraduate plan of study should include among its objectives a facility in the proper use of written and spoken English, a familiarity with at least the outlines of English history, and a thorough knowledge of United States history. A sound knowledge of the elements of social science, including the principles of economics, political science, psychology, statistics, and sociology, is normally recommended. Many law schools highly recommend or require that students complete a college sequence in accounting and advise that they acquire the ability to use a typewriter.

Pre-law students should attempt to compile a college academic transcript in which there are few or no indications of withdrawals, incompletes, grade changes, or completion of courses on an ungraded (Credit/No Credit) basis. Since competition for available places in law schools is becoming increasingly intense, law school admissions committees also look to such indices as grades in advanced mathematics and science courses and in college-level language courses. Students planning on practicing law in California will often find completion of course work in Spanish language helpful in practice.

Most law schools have scholarships and other programs particularly designed for low-income students of ethnic minority background, and increasingly for women who have been underrepresented in the law. Pre-law students should acquire the latest edition of the *Pre-Law Handbook*, the official law school guide, at the University Bookstore. It contains detailed information on all accredited law schools, admissions standards and criteria, information about pre-law study and gaining acceptance into law school, and descriptive material dealing with the Law School Admissions Test (LSAT). It is recommended that students read the materials at the beginning of the *Handbook* before making any appointment with the pre-law adviser.

Students whose grade point, field of major study, or LSAT results are not favorable for law school admission should consult the pre-law bulletin board in Meiklejohn Hall for materials on newly-developing para-legal programs of study. Some of these are offered at law schools, others at business colleges or community colleges.

A cultural and social organization, the Blackstone Pre-Law Society, is open to all students interested in the law or in problems relating to law and society. In addition to the collection of law school catalogs maintained for reference by the University Library, the Blackstone Society has a collection housed in Meiklejohn Hall, room 4090. Students planning to enter law school should consult the Department of Political Science about their major and baccalaureate degree.

Most accredited law schools require that applicants complete the Law School Admission Test prepared and administered by the Educational Testing Service, Princeton, New Jersey 08540. The LSAT is typically given in

October, December, February, April and July at one or more testing centers in the Bay area. Pre-law students should write to the Educational Testing Service early in their final year of college for the bulletin of information and application forms for law school candidates. Copies of the materials can also be secured from the pre-law adviser in the Political Science Department or from the pre-law bulletin board.

Pre-theological Studies

The American Association of Theological Schools recommends that students anticipating graduate theological education take a broad liberal arts program leading to the B.A. degree. No major field is stipulated, but it is essential that students learn to speak and write English correctly and effectively. A reading knowledge of at least one language other than English must be acquired. Students should elect courses which will sharpen their conceptual process (logic, scientific method, literary or historical research) and should have more than an introduction to the world of men and ideas, the world of nature, and the world of human affairs. The majors most frequently recommended are English, history, and philosophy. Students planning to enter theological schools should consult the Department of Philosophy about their major and baccalaureate degree.

The Health Sciences

MEDICINE, DENTISTRY, AND VETERINARY SCIENCE

A student interested in entering medicine, dentistry, veterinary science, or allied health sciences (other than those programs specified below) should register with the Medical Sciences Committee at the Office of the Dean of Undergraduate Studies, Room AD 859, Administration Building.

Upon registration the student should pick up a listing of the undergraduate courses which meet the requirements and recommendations of the particular professional field selected. The Dean's Office will then direct the student to a *preprofessional adviser* to receive further information and individual counseling about meeting these requirements and applying for admission to professional schools. There are only a limited number of pre-professional advisers and priority is given to junior and senior students in securing appointments.

The required courses for the various professional fields do not amount to a major in any case, therefore the student is free to select any major he wishes. Accordingly, in addition to his *preprofessional adviser*, each student must also select a *major adviser* on the same basis as do all other students at the University. Admission to professional schools is highly competitive; consequently, the major selected should be one representing an alternate career objective satisfactory to the student.

Students intending to enter the medical or dental professions should plan on completing a baccalaureate degree in an appropriate academic major. Many pre-medical and pre-dental students major in biological sciences or chemistry, but majors in the social sciences and the humanities are accepta-

ble to medical and dental schools, provided the specified courses in science have been completed.

Admission to medical and dental schools is restricted to those students who have developed a facility in the use of English and in quantitative thinking, who have mastered the fundamentals of the physical and biological sciences, and who have studied in depth one of the major fields of knowledge.

CSUH is an official test center for both the Medical College Admission Test (MCAT) and the Dental Admission Test (DAT). The MCAT is administered twice yearly, in May and October, under the auspices of the Testing Service. Premedical students are urged to schedule this test for May of their Junior year.

The Dental Admission Test, required of all predental students, may be taken by application in January, April, or October. Predental students should plan to take this test in January or April of their Junior year. Contact the Testing Service for further details.

Recommended Courses for Preprofessional Programs

MEDICINE			Units		
	Fall	Wint.	Spr.		
First Year					
Biol. 1101, -2, -3. Foundations of Biological Science.....	5	5	5		
*Chem. 1101, -2-3. General Chemistry.....	5	5	5		
Engl. 1001. Expository Writing.....	3				
*Math. 1130. College Algebra			4		
*Math. 1300. Elementary Functions and Coordinate Geometry				4	
	13	14	14		
General Education or electives					
Second Year					
Chem. 2200. Quantitative Analysis.....	5				
Phys. 2701, -2, -3. Introduction to Physics	3	3	3		
Phys. 2781, -2, -3. Physics Laboratory	1	1	1		
Math. 1304. Calculus I.....	4				
Math. 1305. Calculus II			4		
Math. 2301. Analytic Geometry and Calculus III.....				4	
Engl. 2030. Introduction to Critical Writing I			5		
Engl. 2040. Introduction to Critical Writing II.....				5	
	13	13	13		
General Education or electives					
Third Year					
Biol. 3120. Principles of Genetics.....			5		
Biol. 3140. Principles of Developmental Biology	4				
Biol. 3560. General Embryology.....			5		
Chem. 3301, -2, -3. Organic Chemistry	5	5	5		
	9	10	10		
Major, and General Education or electives					

* See department concerned for placement test prior to registration.

Fourth Year

Completion of Major and General Education requirements

DENTISTRY

Units		
Fall	Wint.	Spr.
5	5	5
5	5	5
3		
13	10	10

General Education or electives

Second Year

Phys. 2701, -2, -3. Introduction to Physics	3	3	3
Phys. 2781, -2, -3. Physics Laboratory	1	1	1
Biol. 3140. Principles of Developmental Biology	4		
Biol. 3560. General Embryology		5	
Psych. 2000. General Psychology I.....			5
Engl. 2030 or 2040. Introduction to Critical Writing I or II	5		

General Education or electives

Third Year

Chem. 3301, -2, -3. Organic Chemistry	5	5	5
Biol. 3570. Vertebrate Anatomy	5		
	10	5	5

Major, and General Education or electives

Fourth Year

Completion of Major and General Education requirements

VETERINARY MEDICINE

Units		
Fall	Wint.	Spr.
5	5	5
5	5	5
3		
13	15	10

General Education or electives

Second Year

Chem. 2200. Quantitative Analysis.....	5		
Phys. 2701, -2, -3. Introduction to Physics	3	3	3
Phys. 2781, -2, -3. Physics Laboratory	1	1	1
Biol. 3120. Principles of Genetics		5	
*Math. 1130. College Algebra			4
*Math. 1300. Elementary Functions and Coordinate Geometry			4

General Education or electives

* See department concerned for placement test prior to registration.

Third Year

	Units		
	Fall	Wint.	Spr.
Chem. 2301, -2. Survey of Organic Chemistry	4	4	
Biol. 3140. Principles of Developmental Biology	4		
Biol. 3560. General Embryology		5	—
	—	—	—
8	9	0	

Major, and General Education or electives

Fourth Year

Completion of Major and General Education requirements

NURSING

CSUH now offers a B.S. degree in nursing. Students interested in nursing should seek advice from the Director of Nursing in SC N132 (see major description and requirements, page 223).

ALLIED HEALTH SCIENCES

The Department of Biological Science offers a Medical Technology Option (see page 211), and the Department of Speech and Drama offers a Bachelor of Science in Speech Pathology and Audiology (see page 167). Advising in these fields is available from the faculty of these programs. Additional programs are scheduled for future years under the Academic Master Plan for CSUH.

For advising in various other areas of allied health sciences, the student should request assistance at the Office of the Dean of Undergraduate Studies, Room AD 859, Administration Building.

* See department concerned for placement test prior to registration

	Units		
	Fall	Wint.	Spr.
Chem. 2301, -2. Survey of Organic Chemistry	4	4	
Biol. 3140. Principles of Developmental Biology	4		
Biol. 3560. General Embryology		5	—
	—	—	—
8	9	0	

FEES AND EXPENSES**Fee Schedule, 1974-75**

Tuition is not charged to legal residents of California.

ALL STUDENTS**Application fee** (non-refundable)

payable by check or money order at time of applying \$20.00

Registration fees (payable at the time of Registration)**Fall and Winter Quarters**

	1-3.9 units	4-7.9 units	8-11.9 units	12 and more units
Materials and Service Fees	\$34.00	\$38.00	\$42.00	\$48.00
Student Body Fee	7.00	7.00	7.00	7.00
Facilities Fee	2.00	2.00	2.00	2.00
	\$43.00	\$47.00	\$51.00	\$57.00

Spring and Summer Quarters

	1-3.9 units	4-7.9 units	8-11.9 units	12 or more units
Materials and Service Fees	\$34.00	\$38.00	\$42.00	\$48.00
Student Body Fee	6.00	6.00	6.00	6.00
Facilities Fee	2.00	2.00	2.00	2.00
	\$42.00	\$46.00	\$50.00	\$56.00

Extension Division \$12.75 per unit *

There is no nonresident tuition charged for Extension classes

Summer Session

Materials and Service Fee	\$18.00 per unit
Student Body Fee	3.00 only

There is no nonresident tuition charged for Summer Session

NONRESIDENTS (FOREIGN AND DOMESTIC)**Nonresident tuition** (in addition to those fees charged all students)

15 units or more, per term	\$433
Less than 15 units, per unit, or fraction thereof	\$29
Per academic year **	\$1,299

Note: Fees are subject to change without advance notice.

No fees of any kind shall be required of or collected from those individuals who qualify for such exemption under the provisions of the Alan Pattee Scholarship Act.

Other Costs (payable when service is rendered)

A. Late Registration fee	\$5.00
B. Failure to meet administratively-required appointment or time limit	2.00
C. Diploma fee	3.50
D. Graduation exercise fee ¹	3.00

* Unless otherwise stated in the Extension Catalog.

** Note: The total nonresident tuition charged shall not exceed \$1,300 per academic year. The fee for the fourth quarter is \$433; thus the potential annual fee is \$1,732 for nonresidents in attendance all four quarters.

¹ Does not include cap and gown rental.

E. Check returned		
1. Registration check	10.00	
2. Any other check.....	5.00	
F. Parking fee per quarter ²	10.00	
G. Official transcript of record.....	1.00	
H. Items lost or broken.....	Cost	
I. Test fees	Cost	
J. Laboratory and/or activity fee	Cost †	

Refund Regulations

A. Any student who finds it necessary to withdraw officially from CSUH is eligible for a refund of a portion (*see C, below*) of the material and service fee provided the application for the refund is filed in the Records Office not later than two weeks (14 calendar days) after the term begins, except as provided in *D*, below.

B. After withdrawal from CSUH or reduction of academic load, *nonresident or foreign student tuition* will be refunded upon formal application according to the following schedule:

Before or during the first week of the quarter	100%
During the second week of the quarter.....	75%
During the third week of the quarter	50%
During the fourth week of the quarter	25%

C. All students (resident, nonresident) who qualify for a refund of their material and service fees, according to the above regulations, will have deducted from their refunds a service charge of \$10.00 if withdrawing from CSUH. There is no refund of material and service fees for reductions in unit load. The facilities fee is non-refundable. The student body card must be attached to the refund application form.

D. Students who have been drafted into military service or called to active duty and, as a result, find it necessary to withdraw from CSUH are eligible for a refund of fees. A refund application form must be filed in the Records Office with a copy of the order.

ESTIMATED EXPENSES OTHER THAN FEES

FOR AN ACADEMIC YEAR OF THREE QUARTERS

Item	Amount
Books and supplies	\$ 150
Carlos Bee Residence Hall	1,386-1,440 *
Supplementary health insurance (not compulsory)	25

Apartments off campus will vary upward from approximately \$100 a month depending on size and facilities. Students should estimate cost of lunches on campus at approximately \$1.00 a day. Expenses such as clothing, laundry, dry cleaning, clubs and organizations, church contributions, recreation, and other personal expenses will vary according to the individual situation. Commuting costs vary but because of CSUH's location a car is a considerable convenience. Public transportation is not available at all hours of the day. Students, therefore, should consider the cost of gasoline, oil, car maintenance, car insurance and, if applicable, car payments, when estimating expenses. The three-quarter costs for a student living away from home vary between \$2,000 and \$2,250 depending upon the distance of the commute to campus.

² 25% of the amount listed is charged for 2-wheel vehicles.

† Cost of material and/or transportation.

* The exact amount depends upon the number of installments used to complete three-quarter payment.

Average Annual Costs and Sources of Funds Per Full-Time Equivalent* Student In The California State University and Colleges

The nineteen campuses of The California State University and Colleges are financed primarily through funding provided by the taxpayers of California. For the 1973/74 year, the total cost of operation is \$553.8 million, which provides continuing support for 233,290 full-time equivalent (FTE*) students. This results in an average cost per FTE student of \$2,374 per year. Of this amount, the average student pays \$224. Included in this average student payment is the amount paid by nonresident students. The remaining \$2,150 in costs are funded by state and federal taxes.

Averages do not fit all students alike or even any specific student. To arrive at an average figure that is meaningful, the costs outlined above exclude "user fees" for living expenses, housing, and parking, as well as costs for extension and summer session work. Computations are based on full-time equivalent students, not individuals, and costs are prorated by system totals, not by campus. The average costs for a full-time equivalent student in the system are depicted in the following chart:

1973/74 Total Costs of Campus Operation (Including Building and Land Amortization)

Enrollment: 233,290 FTE

Amount	Amount	Average Cost per Student (FTE)*	Percentage
State Appropriation (Support)	\$441,860,573	\$1,894	79.8
State Funding (Capital Outlay)**	29,161,250	125	5.3
Student Charges	52,349,450	224***	9.4
Federal (Financial Aids)	30,476,849	131	5.5
Total	\$553,848,122	\$2,374	100.0

*For budgetary purposes, full-time equivalent (FTE) translates total head count into total academic student load. The term assumes that a full-time student in The California State University and Colleges is enrolled for 15 units of academic credit. Some students enroll for more than 15 units; some students enroll for fewer than 15 units.

**The system's more than 14,000 acres of land and the wide range of facilities and equipment on the 19 campuses are currently valued at approximately \$1.2 billion. Amortized over a 40-year period, they are valued at \$125 per FTE student.

***The average costs paid by a student include the materials and service fee, health facilities fee, college union fee, student body fee, and the nonresident tuition. This amount is derived by taking the total of all student fees and dividing by the total full-time equivalent student enrollment. Individual students may pay more or less than \$224 depending on whether they are part-time, full-time, resident or nonresident students.

REGISTRATION

NOTE: Students are held individually responsible for information contained in these pages. Failure to read and comply with policies, regulations, and procedures will not exempt a student from whatever penalties he may incur.

GENERAL POLICIES

1. All students who register at California State University, Hayward must have been properly admitted to CSUH by the Office of Admissions before they may register.
2. Registration is complete only when registration cards have been properly filed and all fees, deposits, and charges are paid. All fees *must* be paid at the time of registration.
3. Students are given credit only for those courses in which they are officially registered at the conclusion of the late registration period.
4. Students will be held responsible for completing all courses for which they initially register, except for changes in registration which are officially filed in the Records Office.
5. The University does not guarantee the availability of particular courses or sections thereof since class cards for admission to classes will be issued only until the maximum number of students allowable in any section has been reached.

Debts Owed to the Institution

From time to time the student may become indebted to the institution. This could occur, for example, when the student fails to repay money borrowed from the institution. Similarly, debts occur when the student fails to pay institution, dormitory, or library fees, or when the student fails to pay for other services provided by the institution at the request of the student. Should this occur, Sections 42380 and 42381 of Title 5 of the *California Administrative Code* authorize the institution to withhold "permission to register, to use facilities for which a fee is authorized to be charged, to receive services, materials, food or merchandise or any combination of the above from any person owing a debt" until the debt is paid. For example, under these provisions the institution may withhold permission to register, and may withhold other services, such as grades and transcripts. If a student believes that he or she does not owe all or part of a particular fee or charge, the student should contact the campus business office. The business office, or another office on campus to which the student will be referred by the business office, will review the pertinent information, including information the student may wish to present, and will advise the student of its conclusions with respect to the debt.

CLASSIFICATION OF STUDENTS

The following classifications apply to students enrolled in the fall, winter, spring, or summer quarters (*not extension or summer sessions*).

1. Full-time undergraduate students are those enrolled in 12 or more units of course work in any regular quarter.
2. Full time enrollment for graduate students is computed in terms of weighted units. In computing weighted units, graduate units (5000 through 6000 level courses), whether taken alone or in combination with undergraduate units, are given a 1.5 weighted measurement. For example, three undergraduate units ($3 \times 1 = 3$) plus six graduate units ($6 \times 1.5 = 9$) or 8 graduate units ($8 \times 1.5 = 12$) would total 12 weighted units, or full time.

Undergraduate students are assigned class level according to the following plan:

	Quarter units
1. Lower Division—	
Freshmen.....	fewer than 45
Sophomores.....	45 but fewer than 90
2. Upper Division—	
Juniors	90 but fewer than 135
Seniors	135 or more

Foreign Student Enrollment Policies

The U. S. Immigration and Naturalization Service requires students on non-immigrant visas to pursue a full course of study in a specific program. Therefore undergraduates or second baccalaureate students will be expected to complete 36 units each academic year. Graduate students will be expected to complete 24 graduate units per year. (See above for information weighted units.)

ADDITIONAL CREDIT REQUEST

Students wishing credit for work taken at another institution while in continuing student status at CSUH must, upon completion of the work, have two copies of the transcript sent to the Office of Admissions and Records and must complete a Request for Additional Credit form available at the Admissions and Records Information Counter in the Lobby of the Administration Building.

PLACEMENT EXAMINATIONS

Placement examinations are given to place students at appropriate levels of achievement as follows:

Mathematics Placement Test. Students enrolling in Math. 1300, 1304 or 1801 without having the formal prerequisites must take the appropriate placement test. The test is administered the last week of each quarter and

during registration. For location and hours consult the Mathematics Department.

Foreign Language Placement Tests. Placement Examinations in Foreign Languages are offered by CSUH and may be taken by students for self-evaluation. Those students who have taken two years of language in high school may not enroll for credit in the course 1-1 for the same language. Those who have taken three or four years of a language in high school may not enroll for credit in a language course numbered lower than 2-1. These restrictions apply only to those who have taken the language within three years prior to enrollment. The examinations are administered during Orientation Week. For location and hours consult the Department of Foreign Languages.

Music Auditions and Proficiency Examinations. Prior to registration, students who wish to declare a major in music must complete examinations and auditions to determine: 1) theory placement, 2) level of applied study, 3) piano proficiency and 4) major performance ensemble. Auditions and examinations are scheduled during the week BEFORE orientation and registration. For additional information and specific appointment times contact the Department of Music.

Advanced Placement

California State University, Hayward, grants credit toward its undergraduate degrees for successful completion of examination of the Advanced Placement Program of the College Entrance Examination Board. Students who present scores of three or better will be granted 8-13 quarter units of college credit, as indicated below.

The Advanced Placement Examinations referred to below are prepared and offered by the College Entrance Examination Board. Unit credit will be granted to those passing the exams, but no letter grade will be assigned or computed in a student's grade point average.

Students who wish to secure Advanced Placement credit must check with the Office of the Dean of Undergraduate Studies to learn whether or not information about the test has been received by CSUH. If the proper records have been filed, the Dean of Undergraduate Studies, by memorandum, will direct the Records Office to make the necessary entries in the student's records.

Biology. A student who has successfully completed an advanced placement course in biology in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination will be granted 10 units of credit in place of Biol. 1000 and Biol. 3020.

Chemistry. A chemistry student who has successfully completed the advanced placement course in chemistry in high school and has earned a score of "3," "4" or "5" in the Advanced Placement Examination will be granted 10 units of credit equivalent to Chem. 1101 and 1102.

Mathematics. A mathematics student who has successfully completed

an advanced placement course in calculus in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination will receive 8 units of credit equivalent to Math. 1300 and 1304.

Physics. Passing the examination Type B with a grade of 3, 4, or 5 will give the student credit for Phys. 2701, -2, -3 and 2781, -2, -3; 12 quarter units of credit.

Passing the examination Type C with a grade of 3, 4, or 5 will give the student 12 units of credit: Phys. 1101, 1102, 2101, and 1181, 1182, 2181.

Art. An art student who has successfully completed an advanced placement course in Studio Art in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination in Studio Art will be granted 8 units of credit. These units will be equivalent to two of the following courses: Art 1110, 1120, 1130. The specific equivalence will be determined by portfolio review upon the student's entrance into the major.

An art student who has successfully completed an advanced placement course in Art History in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination in Art History will be granted 10 units of credit equivalent to Art 2001 and 2002.

English. An English student who has successfully completed the advanced placement course in English in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination will be granted 10 units of credit equivalent to Engl. 1813 and *either* Engl. 2030 or Engl. 2040.

An English student who has earned 10 units of credit through the Advanced Placement Examination is encouraged to challenge Engl. 1001. A successful challenge will earn 3 units of credit for Engl. 1001. (See *Credit by Examination*, below.)

Foreign Languages. A foreign language student who has successfully completed the advanced placement course in a foreign language in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination will be granted 8 units of credit equivalent to the first two quarters of the elementary language course.

History. A history student who has successfully completed the advanced placement course in U.S. history in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination will be granted 8 units of credit equivalent to Hist. 1101 and 1102. If he has completed the advanced placement course in European history in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination, he will be granted 8 units of credit equivalent to Hist. 1011 and 1012.

Music. A student who has earned a score of "3" on the Advanced Placement Test in Music will be granted 8 units of credit equivalent to Music 1031 and 1032. Twelve units of credit, equivalent to Music 1031, 1032, and 1033 will be granted for an Advanced Placement Score of "4." A student who has earned a score of "5" will be granted 13 units of credit equivalent to Music 1031, 1032, 1033 and 1025.

English Equivalency Test

Students who pass the Freshman English Equivalency Test administered by The California State University and Colleges will receive the following credit. English majors receive credit for Engl. 1001 (3 units), Engl. 2030 or 2040 (5 units), and one elective unit. Non-majors will receive credit for Engl. 1001 (3 units), Engl. 1813 or 2030 or 2040 (5 units) and one elective unit. The decision on which 5 unit course is appropriate must be made by an English adviser after interviewing the student.

Credit by Examination

The University recognizes that *exceptional students*, by reason of *special studies or experiences*, may already have achieved the objectives of certain courses in the basic program; therefore, students with this background may petition to receive credit in selected courses by special examination. Such an examination is normally from three to six hours in length and may be oral as well as written. Each course may be challenged only once.

Students wishing to secure credit under this plan must register during registration for the units to be earned by the examination. The class being challenged for credit must be listed in the class schedule for the particular quarter. A petition for credit by examination should be secured from the office of the department offering the course. The examination must be administered *during the first two weeks of the quarter* and the results, in grade form, must be submitted to the Records Office by the end of the fifth week. The instructor is responsible for notifying the student of the results of the examination.

If the exam is passed (a grade of "C" or higher is required), the letter grade and credit by examination will be indicated on the student's permanent record. If the student fails the examination, he must either continue taking the course formally or officially withdraw from it in the Records Office within one week after completing the examination.*

Not more than 36 quarter units of credit obtained by examination may be applied toward the baccalaureate degree. No credit earned by examination may be used to satisfy the 36 quarter units of residence requirements of CSUH.

PLANNING A PROGRAM

Schedule of Classes

A Schedule of Classes, prepared each quarter, includes a listing of general information, courses offered, hours, and rooms. The schedule is available before registration each quarter and may be purchased in the University Bookstore.

* The instructor need not inform the Records Office of the grades "D" or "F".

Academic Load

1. **Undergraduate Students.** The normal academic load for full-time undergraduate students is assumed to be 15 units of course work (12 units is the minimum for full-time status) per quarter. Generally two hours of preparation for each hour of regular class work can be expected. A student may enroll for no more than 18 units during the regular registration periods. A student wishing to take additional units must secure the written approval of his academic adviser and the Dean of Undergraduate Studies and add the desired courses to this program during the Add and Drop period from the first through the sixth day of instruction.
2. **Graduate Students.** The normal academic load for a full-time graduate student is assumed to be 8 graduate units of course work per quarter. See p. 62 for information on weighted units. Higher standards of performance and more intensive preparation for class work are expected of graduate level students. Courses numbered 3000 or higher, when appropriate to the student's objective at CSUH, may be applied to a graduate program when departmental approval is granted.

Auditing Courses

An auditor enrolls for instruction only. Regular class attendance is customary without other participation or credit. The student who wishes to audit a class secures the written permission of an instructor on an Audit card which must be filed in the Records Office during the ADD/DROP period. No change to or from auditor status is possible after the ADD/DROP period. Only those who file the Audit card may be assigned an AU grade. An auditor pays the same fees and enjoys the same instructional privileges as students enrolled for credit, but is not held responsible for examinations or term papers. Students eligible to enroll on a credit basis have priority over auditors in enrolling in courses.

Individual Study Courses

An Individual Study course is a course which is listed in the CSUH Catalog but is not being offered during the term in which a student must gain course credit to complete a specified objective. Permission to take such a course may be granted only in cases of necessity. Applications for Individual Study may be obtained in departmental offices. The application, with signatures of approval, is to be returned to the Department Office no later than the sixth day of instruction.

Independent Study Courses

An Independent Study course is a program of study which is above and beyond the regular offerings of a department. The number of such a course will be 4900, 5900, or 6900, depending on the level and content of the work. Such a course should be considered as elective credit in the program of a student working for a specified objective.

The privilege of Independent Study is limited to students who have at least a 2.0 (C) grade average in all courses in the field or department in which the independent study is to be taken, both at this institution and in work which may have been attempted at other institutions. Students who are on academic probation are ineligible for Independent Study. Independent Study is restricted to students of such ability and background who are able to work with only a relatively small amount of supervision. No faculty member is required to teach an Independent Study course.

Applications for Independent Study may be obtained in departmental offices. The application, with signatures of approval, is to be returned to the Department Office. The Department Office will issue an add card which is to be completed by the student and returned to the Department Office no later than the sixth day of instruction.

Directed Group Study Courses

Each quarter, CSUH offers a variety of Directed Group Study (DGS) courses in various departments. These courses are always identifiable from the numbers assigned to them. Lower division courses bear numbers in the 1920-1999 series, upper division courses in the 4920-4999 series. Such courses are experimental, and are given by departments to determine such things as the best way to teach a subject or whether or not the course should be given in the first place. Such DGS courses carry full credit and fulfill the same requirements as regular courses in the curriculum. Students, therefore, should not hesitate to take them merely because they are experimental.

Descriptions of DGS courses appear in the Schedule of Classes each quarter.

Dual Matriculation

Simultaneous registration in two academic institutions is not recommended. In exceptional cases, an academic program involving dual matriculation can be planned. Information pertaining to dual matriculation is available in the office of Admissions and Records.

Late Registration

A late registration period of six instructional days is available to previously admitted or continuing students who were unable to be present during the regular registration period. Students completing the registration process during this late registration period will be assessed a non-refundable, late registration fee of \$5. Requests to register after the last day of late registration cannot be granted.

Verification of Enrollment

A verification of enrollment is sent to each student twice each quarter.

1. Initial verification (first week of classes): Discrepancies in the student's

programs are handled by the office of the Department offering the course. Add and/or drop cards must be filed with the appropriate Department in order to correct discrepancies.

2. Mid-term verification (fifth week of classes): Discrepancies are handled by the Records Office.

Cancellation of Enrollment

Any student who fails to fulfill admission or matriculation requirements or who otherwise fails to adhere to academic or CSUH regulations is subject to immediate administrative action which may result in his being placed on probation or having his enrollment for that term cancelled. Application for readmission to a subsequent term may be considered, provided the deficiency which resulted in the cancellation has been removed.

CHANGES IN ENROLLMENT

Adding Courses

From the first through the sixth day of instruction a student may add a course by having the instructor sign the appropriate card available in the departmental office. The student must return the signed card to the departmental secretary so that the action will be recorded on the class roster.

Adding a course is not permitted after the sixth day of instruction.

Withdrawing from Courses

From the first through the sixth day of instruction a student may drop a course by signing the appropriate card available in the departmental office.

If the student finds it necessary to drop a course after the sixth day of instruction, it is his responsibility to initiate procedures for dropping individual courses. The student must get an appropriate form from the Records Office, obtain the necessary signatures, and return the form to the Admissions and Records information counter. During the first three weeks of the quarter the student may drop a course without an academic or administrative grade. Neither the course nor a grade of Withdrawal (W) will appear on the student's permanent record.

Withdrawing from a class from the fourth through the seventh week of the quarter is permissible only for serious and compelling reasons such as health or personal problems. Forms stating reasons for withdrawal together with substantiation of the reasons for the withdrawal must be signed by the instructor and the department chairman or school dean and filed in the Records Office. Normally, withdrawals will not be permitted during the final three weeks of an academic quarter. A student may be forced to withdraw from the University during the final three weeks for serious circumstances beyond his control. Such withdrawals are to be handled in the same manner as normal withdrawals, except that they also require the signature of the Dean of Undergraduate or Graduate Studies, whichever is

appropriate to the student's level. (If sufficient work has been done to entitle a student to an Incomplete, that grade will be assigned.)

The administrative symbol W indicates that a student was permitted to drop a course after the third week of classes with the approval of the instructor and appropriate campus officials. It carries no connotation of quality of student performance and is not used in calculating grade point average.

A student who withdraws but does not file official withdrawal forms receives the appropriate academic grade indicating failure.

Withdrawing from CSUH

During the first three weeks of the quarter a student may withdraw from CSUH (from all courses in which he is enrolled for that quarter) by completing a Withdrawal from University form. During this period neither the course nor a "W" mark will appear on the student's permanent record.

In emergency cases, a student may find it necessary to withdraw from CSUH after the third week in the quarter. In such cases the student will receive grades of Withdrawal (W) provided the appropriate forms noted in the preceding section are filed.

Forms for withdrawal from the University are available from the Admissions and Records information counter in the lobby of the Administration Building.

Change of Major, Degree, or Credential Objective

A student who wishes to change his major, degree, or credential objective must obtain the required form at the Admissions and Records information counter. A change is not official until the form has been signed and filed at the Admissions and Records information counter. A student should be aware that he will be responsible for the requirements in the catalog in effect at the time he files a change.

Change of Name or Address

A currently enrolled student who has changed his name or address should notify the Records Office by completing the form available at the Admissions and Records information counter. Official notification is necessary for proper identification of student records and for accurate mailing of correspondence, e.g., grade reports, changes of grade, transcripts, and information pertaining to graduation requirements. Students are required to keep the Records Office informed of all changes; the University will not be responsible for mailing correspondence to the incorrect name or address unless changes are formally filed.



GRADING AND ACADEMIC STANDARDS

Course Examinations

Students' grades are ordinarily computed on the basis of examinations taken during the quarter and a comprehensive examination taken at the end of the course. No final examinations will be given to individual students before the regularly scheduled examination period. If the student finds it impossible to take a final examination on the day scheduled, it is his responsibility to make arrangements with the instructor of the course, prior to the examination date, to receive an "Incomplete" mark. The student then must follow the regulations to remove the Incomplete. No exceptions will be made to these rules without the written approval of the instructor and the Dean of the School offering the course.

Final examinations shall be scheduled only during the final examination period except in unusual cases which require the written permission of the School. This in no way invalidates the policy regarding incomplete grades and make-up examination for individual students.

If final examinations are held before the last date of the quarter on which classes are scheduled according to the CSUH calendar, additional class sessions, with required attendance, shall be held to assure that each class meets the required number of hours during the quarter, in order not to endanger accreditation and other academic standards of the University.

Academic Dishonesty

The University, like all communities, functions best when its members treat one another with honesty, fairness, respect and trust. Therefore, an individual should realize that deception for the purpose of individual gain is an offense against the members of the community. Such dishonesty includes:

Plagiarism

Although difficult to define, plagiarism consists in taking the words or specific substance of another and either copying or paraphrasing the work without giving credit to the source. For instance:

1. Submitting a term paper, examination or other work written by someone else. This is a flagrant instance of plagiarism.
2. Failure to give credit in a footnote for ideas, statements of facts or conclusions derived by another.
3. Failure to use quotation marks when quoting directly from another, whether it be a paragraph, a sentence or even a part thereof.
4. Close and extended paraphrasing of another.

These are only some of the many forms plagiarism may take.

Cheating

Using unauthorized notes, study aids, or information from another student or student's paper on an in-class examination; altering a graded work after it has been returned, then submitting the work for re-grading; and allowing another person to do one's work and to submit the work under one's own name.

Fabrication

Presenting data in a piece of work which were not gathered in accordance with guidelines defining the appropriate methods for collecting or generating data *and* failing to include a substantially accurate account of the method by which the data were generated or collected.

Aiding and abetting dishonesty

Providing material or information to another person with knowledge that these materials or information will be used improperly.

Forgery, alteration or misuse of campus documents, records, or identification or knowingly furnishing false information to a campus

Altering documents affecting academic records; forging a signature of authorization or falsifying information on an official academic document, election form, grade report, letter of permission, petition, or any document designed to meet or exempt a student from an established University academic regulation.

Sanctions

Instances of alleged plagiarism or any other form of academic dishonesty may be referred to the Coordinator of Student Disciplinary Procedures (Dean of Students' Office) for action in accordance with the established disciplinary procedures for The California State University and Colleges System. Following procedures consonant with due process, a student may be placed on probation, suspended, expelled, or given a lesser sanction if he is found to have committed an act of academic dishonesty. The totality of the particular circumstances, the student involved, and any relevant mitigating factors shall be considered in every case.

Prevention

The above information is intended to inform students of the nature of academic dishonesty and its harm to the University community. Professors can discourage such acts by clearly defining and communicating expectations to their students. Class expectations and requirements should be meaningful to the student and appropriate to the subject.

Grading System

Academic Grading

Symbols	Explanation	Grade Points	Progress Points
A	Excellent	.4	.4
B	Above Average	.3	.3
C	Average	.2	.2
D	Below Average	.1	.1
F	Failing	.0	.0
CR	Credit	.0	.2
NC	No Credit	.0	.0

Administrative Grading Symbols

SP	Satisfactory Progress
I	Incomplete
RD	Report Delayed
W	Withdrawal
AU	Audit

A, B, C, D, F Courses

The normal grading pattern for courses is A, B, C, D, F. All courses required for the major in the major department must be taken in this pattern, unless specifically exempted by the department as noted in the course description.

Credit/No Credit Courses

Any undergraduate student may enroll on a Credit/No Credit basis in any course not taken to meet major requirements in the major department up to a limit of 60 units. Graduate students may *not* enroll in courses on a CR/NC basis. No course taken on a CR/NC format may be applied to a graduate degree. Neither a CR nor a NC grade will be computed in a student's grade point average, but both will be counted as units attempted and a CR counted as 2 progress points and a NC as 0 progress points in determining a student's academic standing. The units earned in a course in which a CR grade has been assigned will be applied toward graduation requirements. A student wishing to take courses required for the major but outside the major department on a CR/NC basis must consult with his or her major department to obtain approval for such action. Major courses in the major department may be taken on a CR/NC basis only if the catalog description so indicates. However, no student may take over 60 units of CR/NC units in his undergraduate career. Post-baccalaureate students *not* in graduate programs may take courses on a CR/NC basis, but no such course may be applied to a graduate degree.

A CR grade always signifies mastery of course material at the A, B, or C level. A NC grade indicates below average or failing work.

A student registers for a course on a CR/NC basis by filling out the proper form at the Records Office during the ADD/DROP period. No changes to or from CR/NC status may be made after the ADD/DROP period.

Grade Point Averages and their Significance

Grade points are earned on the following basis: 4 grade points per unit of A, 3 grade points per unit of B, 2 grade points per unit of C, and 1 grade point per unit of D. An F grade earns no grade points. A student's grade point average (G.P.A.) is computed by dividing the total number of units attempted, whether or not they were passed (but excluding CR/NC courses and those in which administrative grades were assigned), *into* the number of grade points earned. A 2.00 (C) average in all college/university courses, all CSUH courses, and all major courses is required for graduation (excluding CR, NC, W, and AU grades).

The number of grade points earned by a student affects his or her academic standing on a quarterly basis. Any student whose total number of grade points does not equal *at least twice* the total number of units attempted or whose number of CSUH grade points does not equal *at least twice* the number of CSUH units attempted is placed on probation (the G.P.A. is below 2.00). If the grade point deficiency reaches certain specified levels defined in the section on Probation and Disqualification below, the student is academically disqualified.

The student should note three significant aspects of the G.P.A. First, it is the number of deficient grade points and not the G.P.A. itself which determines disqualification. For example, two students have identical G.P.A.'s of 1.75, but one is a freshman and deficient 15 grade points and the other is a senior and deficient 55 grade points. The former is on probation; the latter is disqualified. A second point to note is that a certain grade point deficiency may be sufficient to disqualify a person at one class level, but not at another. For example, a 10 point deficiency may disqualify a senior, but not freshmen, sophomores, and juniors. Finally, a student should recognize that there are two ways in which progress toward a degree is gauged. A simple accumulation of units is one method, but the proper accumulation of grade points must also be maintained. It is impossible to graduate with 186 or more units and *with any grade point deficiency whatever*. A student may progress toward graduation accumulating D units at the same time he or she increases a grade point deficiency and thus moves further from graduation.

Repeated Courses

A student may repeat a course in which he received a grade of D, F, or NC, but cannot receive credit for the course more than once. A repeated course is counted as units attempted and is credited with the grade points earned. If a student repeats a course in which he received a grade higher than D, the repeated course will not be counted as units attempted nor will the grade points be counted unless the catalog description of that course specifies that it may be repeated for credit.

Satisfactory Progress

The administrative symbol SP is employed in theses, special research studies, and field studies where assigned work extends beyond a single academic quarter and may include enrollment in more than one quarter. The symbol indicates that work in progress has been evaluated as satisfactory to date, but that assignment of an academic grade must await completion of additional course work. Cumulative enrollments in units attempted in thesis, research, or project courses may not exceed the total number of such units applicable to the degree or credential. All work is to be completed within one calendar year of the date of first enrollment (two years for graduate theses) and a final grade will be assigned to all segments of the course based on overall quality. Any extension of this period must receive prior authorization by the Dean of Undergraduate or Graduate Studies, whichever is appropriate for the level of the course.

The administrative grading symbol SP will not be used in calculating grade point average or progress points. If the SP is not converted to a letter grade within the appropriate period, it becomes an F or an NC depending upon the pattern in which the course was taken. The F will be utilized in computing grade point average and progress points in the quarter the SP changes. The NC will be utilized in computing progress points in the quarter the SP changes.

Incomplete

The I symbol is assigned by an instructor if a student is unable, for unforeseen reasons, to complete a definable portion of course work and there is still a possibility of credit upon completion of further work. An incomplete cannot be assigned when it is necessary for a student to attend a major portion of the class when it is next offered. The student is responsible for bringing pertinent information to the instructor concerning the reasons for receiving an Incomplete. Work needed for completion shall be specified and communicated to the student in writing with a copy to the department or program chairman. An academic grade for the course is recorded when the work has been completed and evaluated. The grade shall be recorded as an F or an NC, depending upon the grading pattern for the course, if the work is not completed within a year. This limitation prevails whether or not the student maintains continuous enrollment. (An extension may be granted by the department if military service or serious health or personal problems prevent the student from completing the work, or if the professor is away on leave during the quarter of expiration.) If the work is not completed within a year, the student must reregister and pass the course to receive credit. The I grade will not be used in calculating grade point average or progress points, except that if it is changed to an F, the F will be utilized in computing grade point average and progress points in the quarter the I is changed, or if it is changed to an NC, the NC will be utilized in computing progress points in the quarter the I is changed.

Report Delayed

The RD symbol is assigned by the Records Office when grade reports are delayed by circumstances beyond the student's control such as the illness of an instructor. The RD grade should be replaced by the appropriate academic grade as soon as possible. The administrative symbol RD will not be used in calculating grade point average or progress points.

Withdrawal

The effective final day to drop a class is the end of the third week of the quarter (15 instructional days). During the first three weeks of a quarter, a student simply fills out a green drop card or a withdrawal from school petition and files it with the department or the Records Office. Faculty are urged to provide some mechanism for students to evaluate their progress in a course during the first three weeks.

For serious and compelling reasons (for example, personal or family illness, death in the family, change in working hours), a student may petition his instructor and department chairman to allow him or her to drop a course from the fourth through the seventh week. The student does this by filling out a yellow late withdrawal card which contains space for the reason for withdrawal. Each case must be reviewed by the instructor and department chairman who have the right to require documentation of the reasons listed. Cards which lack appropriate reasons and/or are signed by some one other than the instructor and department chairman will be rejected by the Records Office. Withdrawal after the census date is an uncommon occurrence and receives careful scrutiny by those approving it. Lack of class attendance and poor academic performance, except when engendered by the serious causes listed above, are not acceptable reasons for late withdrawals. A student may withdraw from the University from the fourth through the seventh week by filling out the proper petition which requires the signatures of all instructors and the major department chairman. The reasons and need for documentation receive the same consideration as single class drops.

No withdrawals from single classes are permitted after the seventh week of the quarter. If a student has attended and done the classwork for this interval and has a valid reason for not completing a course, the Incomplete grade is the appropriate grade for an instructor to assign.

A student may petition, again for serious and compelling reasons, to withdraw from all classes after the seventh week of the quarter. The withdrawal from school petition requires the signatures of all the instructors and the major department chairman who have the right to require appropriate documentation. The petition also requires the signature of the Dean of Undergraduate Studies or Graduate Studies, whichever is appropriate to the level of the class. Appropriate documentation is required by the deans.

The administrative symbol W indicates that a student was permitted to drop a course after the third week of classes with the approval of the instructor and appropriate campus officials. It carries no connotation of

quality or student performance and is not used in calculating grade point average or progress points.

A student who does not file official withdrawal forms and does not attend class receives, according to the grading pattern in the course, an F grade which is used in calculating grade point average and progress points, or an NC grade which is used in calculating progress points.

Audit

An auditor enrolls for instruction only. Regular class attendance is customary without other participation or credit. The student who wishes to audit a class secures the written permission of an instructor on an Audit card which must be filed in the Records Office during the ADD/DROP period. No change to or from auditor status is possible after the ADD/DROP period. Only those who file the Audit card may be assigned an AU grade. An auditor pays the same fees and enjoys the same instructional privileges as students enrolled for credit, but is not held responsible for examinations or term papers. Students eligible to enroll on a credit basis have priority over auditors in enrolling in courses.

Probation and Disqualification**I. Undergraduate Students****A. Probation**

1. A student with a cumulative grade point average or CSUH grade point average of less than 2.0 shall be placed on probation.
2. A student shall be placed on probation if, in any quarter while taking CR/NC courses, he or she fails to earn twice as many progress points as all units attempted during that quarter (administrative grades excluded).
3. A student shall be placed on probation if reinstated following disqualification.
4. A student shall be removed from probation upon earning twice as many progress points as all units attempted and when his or her cumulative grade point average and CSUH grade point average reach 2.0.
5. A student may be administratively placed on probation if he or she withdraws from all courses for two consecutive quarters or any three quarters, repeatedly fails to progress toward a degree when enrolled, fails to comply with any academic requirement or regulation routine for all students.
6. A student on probation must discuss his situation with his or her academic adviser before registering for a new term. A visit to the Counseling Services, AD 408, is strongly recommended.

B. Disqualification

A student on probation shall be subject to disqualification if:

1. As a lower-division student (less than 90 quarter units of college work completed), if he or she falls 23 or more grade points below

a "C" (2.0) average on total units attempted or in all units attempted at CSUH.

- As a junior (90-134 quarter units of college work completed), if he or she falls 14 or more grade points below a "C" (2.0) average on total units attempted or in all units attempted at CSUH.
- As a senior (135 or more quarter units of college work completed), if he or she falls 9 or more grade points below a "C" (2.0) average on total units attempted or in all units attempted at CSUH.
- He or she fails to attain twice as many progress points as all units attempted (administrative grades excluded) in any quarter while on probation and taking CR/NC courses.
- He or she has a grade point deficiency in a single quarter so great in view of his or her past educational record and class level that it appears unlikely he or she will remove the deficiency in a reasonable period.
- He or she fails to meet the conditions for removal of administratively determined probation defined above, becomes subject to academic probation while administratively placed on probation, or is twice administratively placed on probation.

The following procedures have been established to implement the foregoing policy.

- The University will review the academic records of all lower division students with deficiencies of 23-31 grade points, of juniors with 14-22 grade points, of seniors with 9-17 grade points, and of all students subject to disqualification on the basis of progress points. The review will determine if sufficient previous academic achievement exists to delay implementing the disqualification of such students for one subsequent quarter.
 - Such students will be notified that in order to be eligible for continued registration, they must reduce their CSUH grade point deficiencies by 8 or more grade points (the equivalent of 8 units of B with no other grades below C) in the subsequent academic quarter if subject to disqualification by grade point deficiencies or earn at least twice as many progress points as units attempted in the subsequent quarter if subject to disqualification by progress point deficiency.
 - Failure to attain such improvements results in academic disqualification at the end of the subsequent quarter.
- Students on academic probation with grade point deficiencies in excess of the following limits in work attempted at CSUH will be disqualified without further review of academic records.

Lower Division	32 or more
Juniors	23 or more
Seniors	18 or more

II. Post-Baccalaureate Students

A post-baccalaureate student not in a graduate degree program is subject to the same probation and disqualification standards as a senior undergraduate student.

III. Graduate Students

(Graduate students are also subject to the same criteria for administratively determined probation and disqualification as undergraduate and other post-baccalaureate students.)

A. Probation

- A graduate student shall be placed on probation if, in any quarter, he or she fails to earn twice as many progress points as all units attempted during that quarter (administrative grades excluded).
- A graduate student with a cumulative grade point average of less than 3.0, for all courses which are part of his or degree program, shall be placed on probation.
- A graduate student shall be removed from probation upon earning twice as many progress points as all units attempted and when his or her grade point average reaches 3.0 for all courses which are part of his or her degree program.
- A graduate student on probation must discuss his situation with his or her academic adviser before registering for a new term.

B. Disqualification

At the discretion of appropriate CSUH authorities any graduate student is subject to disqualification:

- If while on probation he or she fails to make progress toward raising his or her grade point average toward 3.0.
- If he or she fails to meet the academic criteria of his or her major department.

Readmission Following Disqualification

Disqualified students will not normally be considered for readmission to the University for at least one year after disqualification. Students applying for readmission (see page 44) must provide evidence of a reasonable chance of graduating from CSUH which requires a 2.00 grade point average in all university work, all CSUH work, and all work in the major. Such evidence will normally be in the form of improved all-university grade point averages obtained by attendance at other institutions. If readmitted, the students will resume work at the University with the same CSUH deficiency which subjected them to disqualification. Such students must maintain at least a 2.5 G.P.A. each quarter after readmission until they are no longer subject to disqualification.

Grade Reports

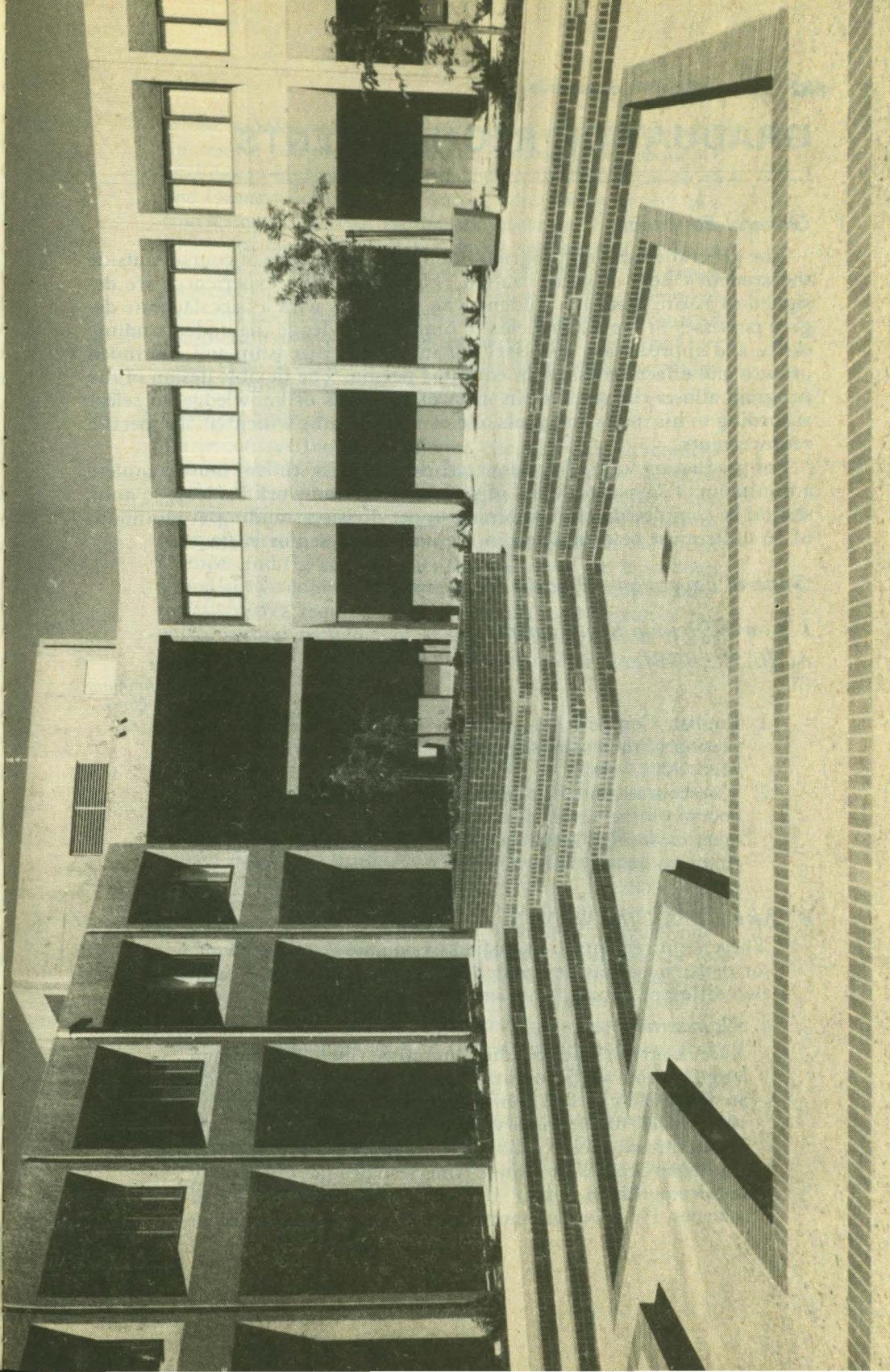
At the end of each quarter, notification of the student's academic standing and report of the grades achieved while in attendance at the University are

mailed to each student. Grades are *normally* mailed within one week following the last day of the term. If there are unpaid charges or other penalties reported against any student, transcripts of the student's work while at California State University, Hayward will be withheld.

Questions regarding grade reports, academic credit, or transcripts should be referred to the Records Office. If a student questions the grade he has received in a course, he should attempt to resolve the problem with the instructor. If he is not satisfied with the instructor's decision, he may discuss the problem further with the chairman of the department in which the course is offered, then the Dean of the School offering the course. A Fairness Committee has been developed to protect both students and faculty members. Contact the office of the Academic Senate, AD 873, for information about the committee.

Honors List.

Undergraduate students who achieve academic distinction in any academic quarter, as evidenced by a grade point average of 3.50 or higher in 12 units or more in addition to any units graded CR/NC, are eligible for inclusion on the Honors List. Undergraduate students enrolled in at least 12 units in addition to any units graded CR/NC who achieve a grade point average of 3.75 or better for any academic quarter will be included on the Dean's List. To determine eligibility for graduation with honors, see *Graduation with Honors*, page 88.



GRADUATION REQUIREMENTS

General Education

The general education program is a planned sequence of courses outside the student's field of specialization. These scholastic experiences are designed to assure that each student who graduates with a baccalaureate degree possesses in the major fields of human knowledge the understanding, skills, and appreciation necessary for informed citizenship and continued growth and effectiveness as an educated person. The flexible design of the program allows the student, in most of the areas of knowledge, to select according to his needs and goals one of several paths which satisfy specific requirements.

For graduation with a baccalaureate degree, each student must complete a minimum of 76 quarter units of general education work. At least 36 units should be completed before attaining upper-division standing. A minimum of 16 units must be completed in the junior and senior years.

General Education—Breadth Requirements

I. Lower-Division Requirements

A. BASIC SUBJECTS

	Minimum Units
1. English Composition—English 1001; or successful completion of the entire sequence of Western Heritage, Gen. Stud. 1001, -2 and -3	3
2. Two courses outside major department (as designated by course prefix) from speech; Phil. 1001, 1002, 3000; mathematics; foreign languages (any 1000 level course and the first two quarters of intermediate language courses); statistics.....	7

B. AREA REQUIREMENTS

These requirements are satisfied by courses outside the major department (as designated by course prefix) in at least two different departments in each area.

1. Humanities

Three courses: Black Studies; literature (including foreign language courses beyond the second quarter of intermediate language courses); philosophy (excluding Philosophy 1001, 1002, 3000); history; and history of the arts (art, drama, music, speech). Courses in Black Studies, Mexican-American Studies, or Native American Studies may satisfy requirements in either or both humanities or social sciences. However, no more than a total of two courses in

ethnic studies can be used to satisfy area requirements. Successful completion of any one course in the sequence of Western Heritage, Gen. Stud. 1001, 1002, 1003 counts as one Humanities course (4 units); completion of any two courses counts as two Humanities courses (8 units). The successful completion of the entire sequence of Western Heritage, Gen. Stud. 1001, 1002, and 1003, or the entire sequence of Asian Cultures 3011, -12 and -13 is counted as two courses in the Humanities area (8 units). Successful completion of any quarter of the sequence of Western Heritage, Gen. Stud. 1101, 1102, 1103, is counted as one course in the Humanities area (4 units)

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2. Natural Sciences

Three courses: biological science, chemistry, earth sciences (conservation, geology, meteorology), marine sciences, mathematics, physical science, physics, psychology and statistics. Courses in psychology and environmental studies may satisfy requirements in either or both the social sciences and the natural sciences. However, no more than a total of two courses in each of these two areas can be used to satisfy area requirements. Successful completion of the entire second sequence of Western Heritage, Gen. Stud. 1101, 1102, 1103, is counted as one course in the Natural Sciences area (4 units)

9

3. Social Sciences

Three courses: anthropology, child development, economics, geography, mass communication, Mexican-American Studies, Native American Studies, political science, psychology, social science, sociology, and Women's Studies. Courses in Black Studies, Mexican-American Studies, or Native American Studies may satisfy requirements in either or both humanities or social sciences. However, no more than a total of two courses in ethnic studies can be used to satisfy area requirements. Courses in psychology and environmental studies may satisfy requirements in either or both the social sciences and the natural sciences. However, no more than a total of two courses in each of these two areas can be used to satisfy area requirements. The successful completion of the entire first sequence of Western Heritage, Gen. Stud. 1001, 1002, 1003, or the entire sequence of Asian Cultures 3011, -12 and -13 is counted as one course in the social science area (4 units). Successful completion of any two quarters or the entire sequence of Western Heritage, Gen. Stud. 1101, 1102, 1103 is counted as one course in the Social Sciences area (4 units)

9

THE STUDENT WILL COMPLETE A TOTAL OF AT LEAST 48 UNITS IN
SECTIONS 1A AND 1B

C. OTHER REQUIREMENTS

1. *Performing Arts and Activities*—Three units chosen from applied or performing arts. (Group or individual activities in art, creative and journalistic writing, drama, music, photography, physical education, and speech will apply to this requirement.) Caution: History, appreciation, theory, or criticism courses in the above areas will not apply to this requirement.
2. *Electives**—Any course in the CSUH catalog outside the area in which the major falls

Definition of Areas.

CSUH assigns each major and course to one of the three general education-breadth areas. (Liberal Studies and Special Majors may draw courses from any area or combination of areas.)

Relation of Prefixes to Areas

- HUMANITIES* courses include appropriate offerings in Art, Black Studies, Creative Arts, Drama, English, English as a Foreign Language, Foreign Languages, History, Music, Philosophy, Speech, and Speech Pathology.
- NATURAL SCIENCES* courses include appropriate offerings in Biological Science, Chemistry, Earth Sciences, Environmental Studies, Marine Sciences, Mathematics, Nursing, Physical Education, Physical Science, Physics, Science Education, and Statistics.
- SOCIAL SCIENCES* courses include appropriate offerings in Accounting, Anthropology, Child Development, Economics, Geography, Management Sciences, Marketing, Mass Communication, Mexican-American Studies, Native American Studies, Political Science, Psychology, Public Administration, Recreation, Social Science, Sociology, Teacher Education, and Women's Studies.

Relation of Majors to Areas

A student's major area is determined according to the following:

- HUMANITIES* is the area for students with majors in Art, Black Studies, Drama, English, French, German, History, Latin American Studies, Music, Philosophy, Spanish, Speech, or Speech Pathology.

* If the number of units taken to satisfy requirements in sections 1A, 1B, and 1C1 equals 60, no elective units need be taken.

Units

3

0-9

- NATURAL SCIENCES* is the area for students with majors in Biological Science, Chemistry, Earth Sciences, Mathematics, Nursing, Physical Education, Physics, Physical Sciences, or Statistics.
- SOCIAL SCIENCES* is the area for students with majors in Anthropology, Business Administration, Child Development, Economics, Geography, Mass Communication, Mexican-American Studies, Political Science, Psychology, Recreation, or Sociology.

Total Lower Division Requirements 60

II. Upper-Division Student Requirements

The upper-division student requirements can be met only after achieving upper-division standing granted upon successful completion of at least 90 quarter units. Upper-division students cannot fulfill this requirement with courses taken at community colleges. The student must take four courses outside the area in which the major falls. (See above tables under Electives for definition of areas by prefix and major.) This requirement may also be met by general studies courses (including Western Heritage, Environmental Studies, Native American Studies) and/or other interdisciplinary courses such as Asian Culture courses and courses in foreign literatures in English translation.

Total 16

A student whose major falls in Humanities may take area courses in Natural Science and Social Science, above. A student whose major falls in Natural Science may take area courses in Humanities and Social Science, above. A student whose major falls in Social Science may take courses in Humanities and Natural Science, above.

Liberal Studies or Special majors may draw courses from any of the three areas or from any combination of courses in the areas.

Note: Courses taken during the last quarter of the Sophomore year cannot apply to the upper-division student requirement, nor can community college courses.

Grand Total 76

Writing Center

The Department of English maintains a Writing Center to which students may come for practical help with writing problems. Work in the

Writing Center is voluntary and carries no college credit. Inquire in the English Department for details of location and hours.

Ethnic Studies

Because of the importance of ethnic cultures in the United States, Cal State recommends that every student take at least one course dealing with this area.

Transfer Students

CSUH will accept the certification by other colleges of the extent to which transfer students have met general education-breadth requirements as outlined in Title 5, State Administrative Code. Transfer students who have completed the general education-breadth requirements and whose transcripts are so certified will be required to meet the *Upper-Division Student General Education Requirement*, as explained above, and to complete a total of 76 units of general education.

Catalog Requirements Under Which a Student Graduates

A student remaining in continuous attendance and continuing in the same major at CSUH, at any other California state university or college, or in any California community college, or in any combination of California community and state colleges and state universities may elect to meet the CSUH graduation requirements in effect at the time of his entering the major or at the time of his graduation from CSUH except that substitutions for discontinued courses may be authorized or required by the proper CSUH authorities.

Continuous attendance at quarter system colleges, including CSUH, is defined as three out of four continuous quarters. That is to say, a student who is not in attendance for two or more consecutive quarters will come under the provisions of the catalog in force when he is next admitted to CSUH. Continuous attendance at a semester system college is defined as attendance in both the fall and spring semesters of each year.

The Bookstore will retain copies of previous catalogs so that students about to graduate may be able to get copies of the edition that was current when they were freshmen.

Code Requirements

In order to qualify for graduation from a California State University and College each student must satisfy the requirements established in Sec. 40404 of Title 5 of the State Administrative Code. Students at Cal State, Hayward may meet this requirement by successful completion of an examination (contact the Testing Services Office for dates) or by taking certain sequences of courses. The requirement is in three parts: U.S. History, U.S. Constitution, and State and Local Government. The following courses satisfy all three: History 1101 (or History 3411 or 3412 or 3413) and 1102 (or

History 3415 or 3416 or 3417 or 4540); or History 1108 and 1109; or Political Science 1201 and 1202. The U.S. History requirement is satisfied by History 3400; the U.S. Constitution by Political Science 3100; and State and Local Government by History 4540 or Political Science 3100 or Political Science 4120.

For graduation with the Bachelor of Arts or Bachelor of Science degree, a student must:

1. Satisfy the CSUH general education requirements as described in this section of the catalog.
2. Complete a major as described in this catalog.
3. Complete a minimum of 36 quarter units in residence (not extension or credit by examination) at CSUH. At least 18 of these units must be among the last 30 quarter units counted toward the degree. Units earned in summer sessions apply.
4. Complete a minimum of 186-198 quarter units of acceptable college credit, at least 60 quarter units of which must be in courses numbered 3000 or above and taken after attaining upper-division standing.* Units earned in Summer Session may be substituted for regular session unit requirements. *See page 49 for restrictions on extension and correspondence credit.*
5. Attain a grade point average of "C" (2.0) or higher in:
 - (a) all units attempted at California State University, Hayward;
 - (b) all units attempted in the major;
 - (c) all units attempted, including those accepted by transfer from other colleges and universities.
6. Be in residence at CSUH during the last two quarters of college work prior to graduation.

Second Baccalaureate Degree

To qualify for an additional baccalaureate degree at CSUH, a student must:

1. Complete all requirements for a degree in the second subject area.
2. Complete a minimum of 36 quarter units in residence at CSUH after fulfilling the requirements for his first degree; at least 18 of these units must be in the subject field of the student's current (second) major.
3. Comply with all graduation requirements of CSUH, including the General Education requirement.
4. Complete the requirements for a major in a discipline other than that in which a previous degree was earned.
5. Receive the approval of his major adviser, the department chairman of his major field, and the dean of the school involved.
6. Maintain at least a 2.0 (C) grade point average for all course work taken while pursuing the additional degree.
7. Attain a grade average of "C" (2.0) or higher in:

*Exception: Students in their final quarter of Sophomore standing may take courses numbered 3000 or above which will be acceptable for this requirement.

- (a) all units attempted at California State University, Hayward;
- (b) all units attempted in the major;
- (c) all units attempted, including those accepted by transfer from other colleges and universities.

Multiple Majors

If a student completes requirements for more than one major falling under one degree, B.A. or B.S., all majors completed by the student which lead to the single degree are listed on the diploma.

A student who has completed two majors leading to different degrees, for example History (B.A.) and Biology (B.S.), is required to declare one major as the degree major, in order to determine the appropriate *degree* to be awarded and the notation on the diploma. In no case will a student be granted two diplomas or two degrees, as distinguished from majors, at the same time.

All *majors* completed by a student are recorded on the transcript.

Applying for Graduation

1. All degree candidates must complete a Candidate for a Degree Card at registration for the quarter before the quarter in which they intend to graduate. The student should also check with his major department office early in the same quarter to be sure that provision has been made for submitting the major check to the Records Office.
2. A Bachelor Degree Check Sheet will be prepared by the Records Office and mailed to the student along with a letter of instruction. The student is responsible for following these instructions.
3. If a student does not graduate in the term for which he has applied, he will automatically be transferred as a prospective graduate for up to two subsequent quarters. If the student does not graduate during either of the subsequent quarters, he must file another candidate for a degree card during registration for the term before the term in which he intends to graduate.
4. All changes in General Education requirements or major requirements (with their substitutions or waivers) must be submitted to the Office of Admissions and Records at least four weeks before the close of the term in which the student intends to graduate; otherwise the student's graduation will automatically be transferred to the next subsequent graduation date.

Graduation With Honors

Any student who has achieved exceptional academic performance and who has earned a grade point average of 3.50 in all college work taken for the degree may be considered for graduation Magna Cum Laude. Any student who has earned a grade point average of 3.75 or higher in all college work taken for the degree is eligible for consideration for graduation Summa Cum Laude.

Earning Graduate Credit While Still an Undergraduate

A student with a 2.0 grade point average earned at CSUH during his final quarter of enrollment as an undergraduate student may apply toward graduate credit a maximum of nine units beyond those required for graduation. Permission must be obtained prior to registration from the department chairman in the area where the graduate credit is to be applied. Appropriate forms are available in the office of the department concerned. The approval form must be filed in the Records Office by the end of the Add/Drop period of the term to which the form applies.

Master's Degree

For requirements for the Master's Degree, see the *Graduate Catalog*.



PART II

PROGRAMS OF

STUDY

CURRICULA AND DEGREES

CSUH offers programs leading to the baccalaureate degree in 35 majors (in addition to Special Majors) and the master's degree in 21 fields of study. Other programs lead to teaching, pupil personnel services, and supervisory credentials.

Baccalaureate Degrees With Major In:

Anthropology (B.A.)	Mexican-American Studies (B.A.)
Art (B.A.)	Music (B.A.)
Biological Science (B.S.)	Nursing (B.S.)
Black Studies (B.A.)	Philosophy (B.A.)
Business Administration (B.S.)	Physical Education (B.S.)
Chemistry (B.A., B.S.)	Physical Science (B.S.)
Child Development (B.S.)	Physics (B.A.)
Drama (B.A.)	Political Science (B.A.)
Earth Sciences (B.S.)	Psychology (B.A.)
Economics (B.A.)	Recreation (B.S.)
English (B.A.)	Sociology (B.A.)
French (B.A.)	Spanish (B.A.)
Geography (B.A.)	Speech (B.A.)
German (B.A.)	Speech Pathology and Audiology (B.S.)
History (B.A.)	Special Major (B.A. or B.S.) *
Latin American Studies (B.A.)	Statistics (B.S.)
Liberal Studies (B.A.)	
Mass Communication (B.A.)	
Mathematics (B.S.)	

Master's Degrees With Major In:

Anthropology (M.A.)	Economics (M.A.)
Biological Science (M.A.)	Education (M.S.)
Business Administration (M.B.A.)	Given in the Department of Educational Psychology, the Department of School Administration and Supervision, and the Department of Teacher Education
(options in Accounting, Management Sciences, and Marketing)	
Business Administration (M.S.)	English (M.A.)
(option in Quantitative Business Methods)	French (M.A.)
Chemistry (M.S.)	Geography (M.A.)
Counseling (M.S.)	

* An acceptable combination of course work from existing majors, designed to satisfy special objectives. Advised through the Dean of Undergraduate Studies.

History (M.A.)
 (History; History with
 Teaching Option)
 Mathematics (M.S.)
 Music (M.A.)
 Physical Education (M.S.)
 Physics (M.S.)

Political Science (M.A.)
 Public Administration
 (M.P.A.)
 Sociology (M.A.)
 Speech (M.A.)
 (Rhetoric and Public
 Address)
 Statistics (M.S.)

Credential Programs:

Programs to prepare teachers, counselors, school psychologists, special educators, and supervisors and administrators have been approved by the State Commission on Teacher Preparation and Licensing (Ryan Commission). Information regarding specific requirements for each credential is available through the appropriate department.

1. Basic teaching credential programs
 - a. Multiple Subjects
 - b. Single Subject, which enables the credential holder to teach one (or more) of the following in grades 12 and below:

(1) Art	(7) Music
(2) English	(8) Natural Science
(3) Foreign Languages	(9) Physical Education
(4) Government	(10) Physical Science
(5) History	(11) Social Studies
(6) Mathematics	
2. Specialist teaching credential programs. These are to be obtained concurrent with (or/more often) after obtaining a basic credential.
 - a. Bilingual/Cross-Cultural Education
 - b. Early Childhood Education
 - c. Reading Instruction
 - d. Special Education. Areas of emphasis: Teaching of gifted, severely handicapped, and learning handicapped.
3. Services credentials offered:
 - a. Administrative Services
 - b. Pupil Personnel Services
 - (1) School Counselor
 - (2) School Psychologist
4. Community College Credentials
 - a. Community College Instructor Credential
 - b. Community College Counselors Credential
 - c. Community College Student Personnel Workers Credential

SPECIAL MAJOR

The Special Major is intended to allow the student to pursue a course of study which does not duplicate significantly any existing major or concentration at CSUH. Such a major may lead to either a B.A. or B.S. degree.

Procedure for Implementing the Special Major

A student wishing to graduate with a special major must discuss the project with the Dean of Undergraduate Studies. Special majors are built around a central idea of academic significance which may lay the foundation for a profession or for advanced study, and which can usually be studied successfully only from the viewpoint of several disciplines. The major itself must be built upon courses already in the curriculum; otherwise, the University will not be able to afford the instruction costs. A limited number of courses taken at other institutions may be applied to the major. Some units of Independent Study can form part of the major, especially in the Senior year. Each Special Major must contain a substantial number of units completed at CSUH.

Students must determine what precise subject they wish to pursue. They may get hints from examining the catalogs of other colleges and universities. CSUH offers over 30 undergraduate majors; hundreds of other majors are offered at other schools. It is wise, too, to speak with faculty members and school deans about the nature of the Special Major before discussing the project with the Dean of Undergraduate Studies.

If the project is considered to have merit, the Dean of Undergraduate Studies will write a memorandum to the School Dean(s) whose departments are involved asking that a committee of faculty members be set up to complete plans for the major. When the proper form is filed by the Committee and the School(s), the Dean of Undergraduate Studies will implement the program. Modifications of a Special Major program require approval of the committee, school, and dean.

General Requirements for the Special Major

The student pursuing a degree in a special major must meet the following requirements:

1. Have at least 45 units to complete before graduation;
2. Complete the General Education Requirements of CSUH; courses fulfilling G.E. Requirements are not applicable to the major requirements;
3. Complete no fewer than 52 units and no more than 80 units in the major; 36 of these units must be at the upper-division level. Courses may be drawn from more than one department;
4. Complete all other graduation requirements of the University. For example, he must complete at least 186 units for a B.A. degree; he may be required to take as many as 198 units for a B.S. degree.

INTERDISCIPLINARY OFFERINGS

MAJORS

Latin American Studies

(offered in the School of Arts, Letters, and Social Sciences)

Professors: Mark Van Aken (Chairman), Lejeune Cummins, Robert Miller, Virgil Salera

Associate Professors: Herbert Eder, Sherman Lewis, Rosa Reeves, Thomas Tomanek

Assistant Professor: H. Glynn Custred

Liberal Studies

(offered through the Interdisciplinary Office)

Professors: Richard Raack (Coordinator), Arthur C. Smith

Associate Professors: John K. Davis, Carl J. Eberhard, John Lier, Donald Muir, Wiley C. Small, Marvin R. Winzenread

Assistant Professors: David Graeven, Marcelline Krafchick, Robert S. Main, Susan B. Parman

Mexican-American Studies

(offered in the School of Arts, Letters and Social Sciences)

Professor: Anthony W. Ochoa (Chairman)

Lecturer: René C. Yáñez

CONCENTRATIONS

American Studies

(offered in the School of Arts, Letters, and Social Sciences)

Professor: Charles W. Merrifield

Associate Professors: Bruce Glasrud (Chairman), Donald Markos, Alan M. Smith

Asian-American Studies

(offered in the School of Arts, Letters and Social Sciences)

Associate Professor: Asoke Basu (Director)

Environmental Studies

(offered through the Interdisciplinary Office)

Professor: Arthur C. Smith

Associate Professors: Kevin D. Cadogan (Coordinator), Thomas H. Pagenhart

Assistant Professors: James S. Fay, Sue E. Hirschfeld

Native American Studies

(offered in the School of Arts, Letters and Social Sciences)

Assistant Professor: Pasqual D. Chavers (Coordinator)

Women's Studies

(offered through the Interdisciplinary Office)

Professors: Marilyn Blawie, Joan S. Thomas

Associate Professor: Helen Meyer

Assistant Professors: Sue Hirschfeld, Lindy L. Mark, Emily Stopper

South Asia Studies

(offered in the School of Arts, Letters and Social Sciences)

Committee is the same as for Comparative Studies in Asian Cultures, listed below.

PROGRAMS

Comparative Studies in Asian Cultures

(offered in the School of Arts, Letters and Social Sciences)

Professors: Glenn L. Glasow, Edward J. Jay (Chairman), Joseph A. Pugliese, Anil K. Sarkar, Vincent Shaudys, William L. Thomas, Jr.

Associate Professor: Joanne F. Loomba

Assistant Professors: Peter J. Claus, Willem B. Van Groenau

Lecturer: Christine Le Baron

General Studies

(offered through the Interdisciplinary Office)

Professors: Corban LePell, Theodore Roszak (Chairman on leave, 1974-75)

Associate Professors: Ann Birge, Helen Schulak

Assistant Professors: William Langan (Acting Chairman), Karl L. Schonborn

Western Heritage

(offered through the Interdisciplinary Office)

Professors: Edward MacKinnon, Theodore Roszak (Chairman on leave, 1974-75), Morton Rosenbaum, Rudolph B. Saltzer

Associate Professors: Scott E. Edwards, Yolanda Patterson

Assistant Professors: William Langan (Acting Chairman), James Lott, Thomas Morrison

MAJORS, MINORS, CONCENTRATIONS, PROGRAMS AND COURSES WHOSE CONTENTS INCLUDE MATERIAL FROM MORE THAN ONE ACADEMIC DISCIPLINE ARE CONSIDERED TO BE INTERDISCIPLINARY.

MAJORS

Latin American Studies

The major in Latin American Studies offers students an interdisciplinary, liberal arts program for such professionally-oriented fields as business and foreign service, and prepares students for graduate work in selected fields. Members of the Committee on Latin American Studies serve as advisers for this program. Successful completion of the requirements leads to the B.A. degree in Latin American Studies.

Requirements

- I. Complete the 76-unit requirement in general education.
- II. Demonstrate a reading knowledge of Spanish or Portuguese. Proficiency may be demonstrated either by two years of college-level course work or by examination.
- III. Complete 52 units according to the following pattern:
 - A. Required courses: Hist. 3600, Hist. 3601, and FLan. 3401.
 - B. Two courses (8 units) in Latin-American literature.
 - C. Two courses, each in a different discipline (for a total of 8 units), selected from the following courses:
 - Anth. 3510. Ethnography of South America
 - Anth. 3515. Ethnography of Mexico and Central America
 - Econ. 4130. Inter-American Economic Relations
 - Geog. 3510. Geography of Middle America
 - Geog. 3515. Geography of South America
 - Hist. 4641-2. Intellectual History of Latin America
 - Hist. 4645-6. Social and Economic History of Latin America
 - Pol. Sci. 4280. Political Systems of Latin America
 - Pol. Sci. 4580. Development and Revolution in the Americas
 - Elective *
 - D. Six courses (24 units) of program electives from the following courses:
 - Anth. 3510. Ethnography of South America
 - Anth. 3515. Ethnography of Mexico and Central America
 - Econ. 4130. Inter-American Economic Relations
 - Geog. 3510. Geography of Middle America
 - Geog. 3515. Geography of South America
 - Hist. 4532. Inter-American Relations
 - Hist. 4609. Mexico to 1821
 - Hist. 4610. Mexico Since 1821
 - Hist. 4625. The Nations of Southern South America
 - Hist. 4630. Colonial Brazil
 - Hist. 4631. Brazil Since Independence
 - Pol. Sci. 4280. Political Systems of Latin America
 - Pol. Sci. 4580. Development and Revolution in the Americas
 - FLan. 3461. Introduction to Spanish-American Literature Before the Nineteenth Century
 - FLan. 3462. Introduction to Spanish-American Literature: 19th Century Romanticism and Modernism
 - FLan. 3463. Introduction to Spanish-American Literature: From 1910 to the Present

* Any course certified by an adviser to have suitable Latin American content.

- FLan. 3471. Spanish-American Literature: The Essay
- FLan. 3472. Spanish-American Literature: The Short Story
- FLan. 3481. Spanish-American Literature: The Drama
- FLan. 3482. Spanish-American Literature: Poetry
- FLan. 3491. Novel of the Mexican Revolution
- FLan. 3492. Spanish-American Novel
- FLan. 3493. Contemporary Novel in Spanish America
- FLan. 4461. The Contemporary Literature of One Spanish-American Country
- FLan. 4471. Novel of Social Protest
- Elective *

Liberal Studies

The major has two routes suited to its two objectives. The first objective is to produce a liberally educated graduate. Both options are designed to achieve this. Both are planned to guarantee breadth of academic experience and to preserve a reasonable amount of depth and rigor in a single academic discipline or study area. The Liberal Studies major thus offers not only a good undergraduate education but also serves as preparation for careers requiring advanced professional training (e.g., law, medicine, business, architecture, teaching).

The second program embraces the objectives of the first, and adds undergraduate professional studies organized to fit the needs of the prospective teacher in training for the Multiple Subject Teaching Credential. The student who majors in Liberal Studies under this program can expect to gather a useful store of information and observe and participate in systematic processes of thinking about just those subjects which he or she will be expected to teach.

The student who successfully completes one of the following options and who amasses 186 quarter units (of which 60 units must be upper division courses) and who has met the Code requirement in U. S. History, U. S. Constitution, and State and local governments will be assumed to have met all graduation requirements at the University, including those of the major and the general education program. The University has submitted the route for credential candidates described below to the State Commission on Teacher Preparation and Licensing for approval as an alternative to the Commission examination.

The Non-Credential Option***Area I*** (30-33 units)

A. Engl. 1001, 2030, 2040, 3010	18 units
B. Spch. 1000 or English elective	4-5

* Any course certified by an adviser to have suitable Latin American content.

C. Either two upper-division electives in English and/or Speech, or one in English or Speech and one in Social Science or History; or two courses in a single foreign language.	8-10 units
<i>Area II</i> (30-33 units)	
A. 1. Biol. 1000	5
2. Biol. 2030 or 2040 or 3031	4
B. Two of the following groups of courses:	9-11
1. Chem. 1100 or 1101	5
2. E.Sc. 1001 and 1002; or 2101	5-6
3. Phys. Sc. 1340	5
4. Phys. 1700 and 1780; or 1101 and 1181; or 2701 and 2781	4
C. Three courses in Mathematics and/or Statistics (Math. 1110, 1300 and either Stat. 1000 or 1100 or 2400 are recommended)	12-13
<i>Area III</i> (32 units)	32
Electives in Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology. (At least three approved upper-division courses in each of two areas; see department advisers for approved courses.)	
<i>Area IV</i> (31 units in which one course in Social Science or History may be included in lieu of one four-unit course)	
A. Art 1010	5
B. Art 1110	5
C. Drama 2010	4
D. Mus. 1008 or 1901	4
E. Electives in at least two of the following subjects: Art, Drama, Foreign Languages, Music and/or Philosophy. (Additional courses in the foreign language taken under area IC may be applied here.)	13
<i>Area V</i> (57-63 units)	
A. 28-33 units of approved courses in a department, or divided among inter-departmental programs offering emphases in the major. (See department advisers for approved courses and programs. Departments offering emphases may specify courses in elective portions of Areas I-IV.)	28-33
B. 24-36 units of free electives.	24-36

The Credential Option

Area I (31-33 units, of which at least 27 must be in English and Speech)

A. Composition and Grammar: Engl. 1001, 2030, 2040, 3010*	18 units
B. Spch. 1000	4
C. One upper-division English literature course * and either one elective course in English, one elective course in Speech, one elective course in a social science, or one elective course in history	9-10

Area II (31-33 units)

A. 1. Biol. 1000	5
2. Biol. 2030 or 2040, or 3031	4
B. Two of the following groups of courses:	9-11
1. Chem. 1100 or 1101	5
2. E. Sc. 1001 and 1002; or 2101	5-6
3. Phys. Sc. 1340	5
4. Phys. 1700 and 1780; or 1101 and 1181; or 2701 and 2781	4
C. Math. 4021, 4022, 4023	13

Area III (32 units) **

Electives in Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology. (At least three approved upper-division courses in each of two areas; see department advisers for approved courses.)	32
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Area IV (31 units, 4 of which may be taken in Social Science or History in lieu of one of the four unit courses below)

A. Art 1010	5
B. Art 1110	5
C. Drama 2010	4
D. Mus. 1008 or 1901	4
E. Electives in at least two of the following subjects: Art, Drama, Foreign Languages, Music and Philosophy	13

Area V (57-61 units)

A. In addition to the above, students must complete an additional 18-23 units of approved courses in a single department or area of study in which emphases within the major are offered. (See department advisers for approved courses and programs. Departments offering emphases may specify courses in elective portions of Areas I-IV.)	18-23
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* Students must contact course instructor about examination for waiver of the credential requirement for English 3003.

** At least one course in history is required of credential candidates. It may be taken in this area or as the single history course permitted in Areas I and IV.

B. 39 units of Teacher Education courses in the approved credential program. (See listing in this catalog under Department of Teacher Education.) 39 units

Mexican-American Studies

Mexican-American Studies is an interdisciplinary, liberal arts program leading to a B.A. degree. Candidates for teaching credentials must confer with advisers in the School of Education.

Requirements

- I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees. Students who complete this major may apply up to 8 units of Foreign Language courses in satisfaction of the requirement in Basic Subjects (requirement I.A.2); up to 12 units of Foreign Literature, History, and Philosophy courses in satisfaction of the requirement in Humanities and/or up to 16 units of such courses in satisfaction of the requirement in upper division general education (requirement II); up to 12 units of Anthropology, Geography, Political Science, and Sociology courses in satisfaction of the area requirement in Social Sciences (requirement I.B.3); 3 units of creative arts or physical education (see requirement B below) in satisfaction of the requirement in performing arts and activities (requirement I.C.1). Courses outside of the social sciences may also satisfy elective requirements in general education (requirement I.C.2).
- II. Courses in the major 52-76 units
 - A. Required courses: MAS 2001, 2002, 2003, 4000 and Hist. 4504; (20)
 - B. Six or seven units in creative arts and/or physical education with Chicano content;
 - C. Eight units in history courses selected from:
 - Hist. 3600. Latin America: Colonial Period
 - Hist. 3601. Latin America: Since 1825
 - Hist. 4540. History of California
 - Hist. 4609. Mexico to 1821
 - Hist. 4610. Mexico Since 1821
 - Hist. 4801-99. Special Problems in History *
 - Hist. 4920-99. Directed Group Study *
 - D. Eight units in Spanish language or literature with Chicano content (at least four units of which must be in literature):
 - FLan. 3401. Advanced Spanish Composition and Syntax I
 - FLan. 3402. Advanced Spanish Composition and Syntax II
 - FLan. 3403. Advanced Spanish Composition and Syntax III
 - FLan. 3461. Introduction to Spanish-American Literature: Before the 19th Century

* Course must be certified by the Chairman of Mexican-American studies or an authorized adviser to have suitable Chicano content.

FLan. 3462. Introduction to Spanish-American Literature: 19th Century Romanticism and Modernism

FLan. 3463. Introduction to Spanish-American Literature: From 1910 to the Present

FLan. 4455. Precolumbian Mexican Literature and Civilization

FLan. 4461. The Contemporary Literature of One Spanish-American Country *

FLan. 4467. Spanish-American Literature: The Essay *

FLan. 4468. Spanish-American Literature: The Short Story *

FLan. 4481. Spanish-American Literature: The Drama

FLan. 4482. Spanish-American Literature: Poetry *

FLan. 4491. Novel of the Mexican Revolution

FLan. 4492. Spanish-American Novel

FLan. 4920-99. Directed Group Study *

E. Program electives. Eight to nine units of program electives selected from the following:

Anth. 3515. Ethnography of Mexico and Central America

Anth. 3518. Ethnography of Mexican American Peoples

Anth. 3820. Folklore *

Anth. 4500. The American Southwest

Anth. 4920-99. Directed Group Study *

FLan. 1407. Elementary Spanish for Chicanos

FLan. 2408. Intermediate Spanish for Chicanos, I

FLan. 2409. Intermediate Spanish for Chicanos, II

FLan. 3401. Advanced Spanish Composition and Syntax I

FLan. 3402. Advanced Spanish Composition and Syntax II

FLan. 3403. Advanced Spanish Composition and Syntax III

FLan. 3461. Introduction to Spanish-American Literature: Before the 19th Century

FLan. 3462. Introduction to Spanish-American Literature: 19th Century Romanticism and Modernism

FLan. 3463. Introduction to Spanish-American Literature: From 1910 to the Present

FLan. 4455. Precolumbian Mexican Literature and Civilization

FLan. 4461. The Contemporary Literature of One Spanish-American Country *

FLan. 4467. Spanish-American Literature: The Essay *

FLan. 4468. Spanish-American Literature: The Short Story *

FLan. 4481. Spanish-American Literature: The Drama *

FLan. 4482. Spanish-American Literature: Poetry *

FLan. 4491. Novel of the Mexican Revolution

FLan. 4920-99. Directed Group Study *

Geog. 3510. Geography of Mexico, Central America, and the Caribbean Islands

* Course must be certified by the Chairman of Mexican-American studies or an authorized adviser to have suitable Chicano content.

Hist. 3600. Latin America: Colonial Period
 Hist. 3601. Latin America: Since 1825
 Hist. 4540. History of California
 Hist. 4609. Mexico to 1821
 Hist. 4610. Mexico Since 1821
 Hist. 4801-99. Special Problems in History *
 Hist. 4920-99. Directed Group Study *
 MAS 1020. The Mexican-American Student in Contemporary Society
 MAS 1510. The Rhetoric of the Chicano Revolution
 MAS 4130. Barrio Projects
 Phil. 2801. Intellectual Antecedents of Chicano Thought
 Pol.Sci. 3411. Law and the Poor
 Pol.Sci. 4170. Selected Problems in American Government *
 Pol.Sci. 4330. Pressure Groups and Political Power
 Pol.Sci. 4380. Chicano Politics
 Soc. 3416. The Mexican American Family
 Soc. 3520. Minority Groups *
 TED. 4400. The Chicano and the Schools
 Elective *
 F. Foreign Language 0-24 units
 Demonstrate a reading knowledge of Spanish. Proficiency may be demonstrated either by two years of college-level course work or by examination.

Unit Summary

a. General Education **	76	
b. Major: courses in Mexican-American Studies courses in supporting fields **	16-25 { 27-60	52-76 units
c. Electives **	94-116	
B.A. degree total	186	

* Course must be certified by the Chairman of Mexican-American Studies or an authorized adviser to have suitable Chicano content.

** Up to 43 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

CONCENTRATIONS

Concentrations are essentially interdisciplinary minors and are noted on student records provided the student files an appropriate graduation check.

American Studies

The program in American Studies provides the student with an opportunity to study the culture of the United States from the perspectives of literature, history, political science, and other disciplines. The program is intended for the student who wishes to complement his Bachelor of Arts major with a Concentration in American Studies by emphasizing the subject of the United States in his selection of upper-division major and General Education requirements. The program is especially useful for students who plan careers in teaching, law, library science, journalism, and public service.

Advisers for the Concentration are available in the English, History, and Political Science Departments. A candidate for the Concentration should plan his major and General Education requirements in consultation with one of these advisers to conform as much as possible with the following requirements:

1. (24-26 units) Two upper-division courses, approved by an American Studies adviser, from each of the following departments: English, History, and Political Science. These courses must include Hist. 4511, -12; or Hist. 4513, -14; or Pol.Sci. 4731, -32.
2. (4 units) One additional course, approved by an American Studies adviser, from one of the following departments: Anthropology, Black Studies, Economics, Geography, Mexican-American Studies, Music, Philosophy, Sociology, Speech/Drama.
3. (4 units) One Senior Seminar in American Studies and concurrent registration in Independent Study. The seminar is numbered 4690 and will be scheduled only by those departments participating in the concentration.
4. (8-10 units) Two additional courses listed in 1, 2, and/or 3 above.

Asian-American Studies

The Asian-American Studies Concentration will provide the students with an opportunity to study American society from an Asian perspective. It emphasizes the process of assimilation and development of a subculture through such academic disciplines as history, philosophy, sociology, anthropology, and other disciplines. The program is open to students who wish to complement their baccalaureate major with an interdisciplinary concentration on Asian-American Studies.

Advisers for the Concentration are available in the sociology, political science and anthropology departments. A candidate for the Concentration must complete all requirements for his departmental major, but should plan his major to conform as much as possible to these following requirements, some of which may satisfy his major and General Education requirements.

A. Core (12 units):

	Units
1. Soc. 4525. Asian Identity in America	4
2. One course from the following (4 units):	
Hist. 3300. The Ancient Orient	4
Hist. 3301. Modern Asia	4
Hist. 4315. China to 1644.....	4
Hist. 4316. China: 1644-1900.....	4
Hist. 4317. China Since 1900.....	4
Hist. 4321. Japan to 1600	4
Hist. 4322. Japan Since 1600	4
Hist. 4331. History of India	4
Hist. 4335. History of Southeast Asia.....	4
3. One course from the following (4 units):	
Phil. 3703. Philosophies of China and Japan.....	4
Phil. 3710. Comparative Themes in Eastern and Western Philosophy	4
B. Electives (24 units):	
Selected from at least three (3) different subjects as indicated by course prefix:	
Anth. 3535. Ethnography of Southeast Asia	4
Anth. 3540. Ethnography of Eastern Asia	4
Anth. 3560. Ethnography of India	4
Anth. 4550. Asian-American Peoples and Cultures	3
(concurrent enrollment required in one of Anth. 4555 or 4556 or 4557)	1
Art 4040. The Art of China	5
Asia 3011, 3012, 3013. Comparative Studies in South Asian Cultures	4 each
FLan. 1601, -2, -3. Elementary Cantonese	4 each
FLan. 1651, -2, -3. Elementary Japanese I, II, III	4 each
Geog. 3540. Geography of Eastern Asia	4
Geog. 3550. Geography of Southeast Asia	4
Geog. 3560. Geography of South Asia.....	4
P.E. 3200. Survey of Ethnic Dance	3
Pol. Sci. 4241. Government and Politics on the Indian Subcontinent	4
Pol. Sci. 4248. Government and Politics of China	4
Pol. Sci. 4249. Government and Politics of Japan.....	4
Pol. Sci. 4570. U.S. and the Far East	4
Soc. 2100. Asian-American Communities	4
Soc. 3520. Minority Groups	4
Total Units Required	<hr/> 36

Environmental Studies

The Concentration in Environmental Studies is designed to encourage and enable undergraduate students enrolled in any subject-field major to organize their elective courses around a broad study of our environment and its problems from both a social and scientific perspective. Environmental Studies emphasize, but are not necessarily restricted to, the interactions among the physical, biological, societal, and aesthetic surroundings of man, and their consequences for all life forms.

The concentration consists of 34-36 units arranged in an integrated pattern, as approved by an adviser. The core program in Environmental Studies (see p. 291) consists of three sequential courses (totalling 10 units) which are required of all students in the concentration. The remaining 24-26 units of the concentration are electives selected from the lists below.

I. Core Courses (10 units)

Envt. 2000. Introduction to Environmental Studies	4 units
Envt. 3000. Environmental Field Studies.....	2
Envt. 4000. Senior Seminar in Environmental Studies	4

II. Electives in Natural Science (8-10 units)

Two courses *outside the major department*, chosen from the following list, which will be expanded as new relevant courses develop.

Biol. 3110. Principles of Ecology	4 units
Biol. 4145. Problems and Practice of Conservation	4
E.Sc. 1001. Introduction to the Earth Sciences.....	4
E.Sc. 1002. Problems in Environmental Geology.....	2
E.Sc. 1201. Introduction to Oceanography.....	4
E.Sc. 1400. Introduction to Meteorology	4
E.Sc. 2101. Physical Geology.....	5
E.Sc. 3000. Conservation of Natural Resources	5
E.Sc. 3300. Principles of Geology.....	4
Geog. 2100. Principles of Physical Geography	4
Geog. 3100. Descriptive and Regional Climatology	4

III. Electives in Social Science (8 units)

Two courses *outside the major department*, chosen from the following list, which will be expanded as new relevant courses develop.

Anth. 3300. World Ethnography.....	4 units
Anth. 4450. Cultural Ecology	4
Econ. 4305. Seminar in Environmental Economics	4
Geog. 2300. Principles of Cultural Geography	4
Geog. 3000. Resources and Man	4
Soc. 2200. Current Population Topics	4
Soc. 3100. Human Ecology.....	4

IV. Additional Electives (8 units)

Chosen from list II or III (above) or from the following list and Independent Study projects. No more than 5 units may be in the department of the undergraduate major.

Anth. 4330. Culture Change	4 units
Art 3074. Modern Architecture.....	5
Art 4063. The Modern Metropolis as Art	5
Biol. 3031. Nature Study	4
Biol. 3032. Nature Study	4
Biol. 4005. Insects and Man	4
Biol. 4010. Microbes and Man.....	4
Biol. 4020. Field Natural History	4
Biol. 4115. Marine Biology	4
Biol. 4130. Biogeography	4
Biol. 4230. Economic Plants.....	4
M.Sc. 4480. Marine Ecology.....	4
E.Sc. 3100. Micrometeorology	4
E.Sc. 3400. General Oceanography.....	5
E.Sc. 4151. Marine Meteorology	3
Geog. 2310. Economic Geography	4
Geog. 3320. Agricultural Land Utilization.....	4
Geog. 3330. Urban Geography: The Modern City	4
Geog. 4320. Geography of Energy Resources	4
Geog. 4350. Water Resources and their Management ..	4
Soc. 3200. Introduction to Population Analysis	4
Soc. 4450. Urban Sociology	4

Native American Studies

The Concentration in Native American Studies provides students with an opportunity to study the traditional Native American cultures, the problems of inter-cultural contact, and the special problems encountered by Native Americans in contemporary America. The program is designed for students who wish to complement their baccalaureate majors with an integrated group of courses from various disciplines bearing upon Native American Studies. Some of the courses in the concentration may be used simultaneously to satisfy major and general education requirements.

Advisers for the concentration are available in Native American Studies and in the Anthropology and History departments.

Requirements for the Concentration**I. Eight units as follows:**

NAS 2100. The Native American Experience (4)
plus one of:

- Anth. 1000. Introduction to Anthropology (4)
- Anth. 2300. Principles of Cultural Anthropology (4)
- Soc. 2000. Introduction to Sociology (4)

II. Twelve to sixteen units from:

- NAS 2200. Contemporary Native American Life (4)
- NAS 2300. Native American World View (4)
- NAS 2500. Native American Oral Tradition (4)
- NAS 3200. Native American Liberation Movements (4)
- NAS 3210. History of Native American Education (4)
- NAS 3400. Native American Law and Federal Policy (4)
- NAS 4200. Native Americans in Urban Societies (4)
- NAS 4400. Tribal Governments (4)

III. Eight to twelve units, selected with an adviser in Native American Studies from:

- Anth. 3240. Archeology of North America (4)
- Anth. 3500. Indians of North America (4)
- Anth. 3505. Indians of California (4)
- Anth. 3515. Ethnography of Mexico and California (4)
- Anth. 3820. Folklore (4)
- Anth. 4330. Culture Change (4)
- Anth. 4500. The American Southwest (4)
- Hist. 4500. The Westward Movement (4)
- Hist. 4540. History of California (4)
- P.E. 2203. Dance of American Indians (1)
- P.E. 3202. Dance Rituals of American Indians (3)
- Phil. 2110. Racial Conflict and Ethical Values (4)
- Soc. 3520. Minority Groups (4)
- Soc. 4515. Social Movements (4)
- T.Ed. 5038. Multiculture Education (4)

Total Units for the Concentration 32 units
(at least 19 units must be upper-division)

South Asia Studies

The concentration in South Asia Studies is designed to provide a broad background in the understanding of South Asian cultures (India, Pakistan, Bangladesh, and Sri Lanka) and at the same time provide the student with an opportunity to specialize in a traditional academic discipline. The concentration is *not* a major and will not interfere with the student's major. It involves grouping general education courses, free electives, and courses in the major in such a way as to provide an emphasis on South Asia.

The concentration consists of 38 units, arranged in an integrated pattern, as approved by an adviser in South Asia Studies. The student's adviser must be selected from among the members of the Committee on South Asian Studies. The year-long course, in South Asian Cultures, (Asia 3011, -12, -13, see page 255) is the basic course in the program and is therefore required of all students in the concentration.

A student desiring that a notation of completion of the Concentration in

South Asian Studies appear on his permanent record must apply to, and receive the certification of, the Chairman of the South Asian Studies Committee at the time of his graduation check in his major department.

Required Courses

1. *General Course.* Twelve units of South Asian Cultures (Asia 3011, -12, -13)
2. *Courses in the Student's Major.* At least four units in courses on South Asia must be taken within the student's major field, but not more than 12 units in the major may be counted toward the concentration. In cases where no courses on South Asia are offered within the student's major field, this requirement may be fulfilled by enrollment in courses in other fields, as listed below, subject to approval of the adviser in South Asian Studies.
3. *Other Courses.* The remaining units (14-22) must be taken in at least two fields outside of the student's major, chosen from among the following courses:

Anth. 3560. Ethnography of India (4)
 Art 4050. Art of India (5)
 Asia 3020. South Asian Literatures (4)
 Asia 3030. South Asian Folklore (4)
 Geog. 3560. Geography of South Asia (4)
 FLan. 1801, -2, -3. Elementary Hindi (4-4-4)
 FLan. 2801, -2, -3. Intermediate Hindi (4-4-4)
 Hist. 4331. History of India (4)
 Hist. 4341. Rise and Spread of Islamic Civilization: 622-1050 (4)
 Hist. 4342. Medieval Islamic History: 1050-1800 (4)
 P.E. 3204. Art Dances of Asia (3)
 Phil. 3701. Classical Indian Philosophy (4)
 Phil. 3702. The Six Schools of Later Indian Philosophy (4)
 Phil. 3710. Comparative Themes in Eastern and Western Philosophy (4)
 Pol. Sci. 4241. Government and Politics on the Indian Subcontinent (4)

This list of courses will be increased as new courses related to South Asia are added to the curriculum.

Two to four units must be represented by a "special project" course or courses (independent or group study) in which the student undertakes a research paper or other systematic research under the supervision of an appropriate faculty member. This course may be taken outside the student's major or within it. If taken within the major, the units may constitute all or part of the minimum number of four required. If the course represents units in excess of the 12 allowed within the major, it will fulfill the "special project" requirement, but the units will not be added to the total number required in the concentration.

Recommended Courses

In addition to the requirements set forth above, it is strongly recommended that a student complete at least one year of a South Asian language and enroll in as many additional courses as possible from the preceding list.

Summary of the Program

<i>Required Courses:</i>	<i>Units</i>
Asia 3011, 3012, 3013.....	12
<i>Other Courses:</i>	
In major field	4-12
In fields other than the major	14-22
Total.....	38

Women's Studies

The concentration in Women's Studies is intended to increase a student's knowledge, interest, and appreciation of the needs, contributions, problems and aspirations of women. Advisers are available in the Departments of Anthropology, Earth Sciences, Physical Education, Political Science, and Teacher Education. In the program described below, no more than 8 units in the major department, nor more than 8 units of Lower Division courses may be applied to the Concentration.

- A. Core (8 units)
 Women's Studies 3000, 4000
- B. Electives in Women's Studies (8 units)
 Two courses with special reference to the needs and problems of women selected from Hist. 4527, Pol. Sci. 3412, 4340.
- C. Electives in related fields (14 units minimum)
 Select from the following list:
 Anth. 3110, 3400, 3460, 4420, 4840
 Biol. 3040, 4160
 CDev. 2001, 3800
 Engl. 3710, 4720, 4832
 Hist. 4513, 4514, 4527
 Nurs. 4205
 Phil. 3510
 P.E. 4320, 4720
 Pol.Sci. 3411, 3412, 4340
 Psych. 1500, 3500, 4420
 Soc. 3000, 3200, 3310, 3410, 3415, 3416, 3420, 3430, 3440, 3500, 3510, 3700, 3710, 3730, 3745
 Spch. 4800

Appropriate D.G.S. and General Studies courses may be applied to B and C above.

PROGRAMS

The following groups of courses may be used to satisfy portions of the General Education requirement as noted.

Asian Cultures: South Asia

This interdisciplinary, general education sequence (Asia 3011, -12, -13) is counted as two courses in the *humanities* area and one course in the *social sciences* area. This sequence does not satisfy the code requirements in the U.S. History and Institutions. Completion of *Asia 3011* only satisfies three units in humanities and one unit in the social sciences area requirements. Completion of *Asia 3011, -12* only satisfies six units in humanities and two units in the social sciences area requirements. Any or all courses in this sequence may also be used to fulfill upper division general education requirements in accordance with the regulations governing these requirements.

General Studies

As one alternative for fulfillment of upper-division student general education requirements, CSUH offers each quarter a number of General Studies courses which are interdisciplinary, intercultural, or contemporary in nature. Any course designated as General Studies can be taken by any upper-division student at the University for the purpose of satisfying upper-division general education requirements. The list of General Studies courses is published in the Schedule of Classes each quarter. Students should see their advisers or the Office of the Dean of Undergraduate Studies, AD 859, or the Interdisciplinary Office, MI 4041, for additional information.

The Western Heritage

Western Heritage is a two year (six quarter) "great books" program taught on an interdisciplinary basis by members of the Departments of History, English, Political Science, Philosophy, Foreign Language, and Music. It is divided into two sequences, General Studies 1001, 1002, 1003; General Studies 1101, 1102, 1103. Each sequence is a self-contained year of work and presupposes no prerequisites. Both sequences are open to all students for either lower division or upper division General Education credit.

The first sequence of the course (General Studies 1001, -2, -3), gives the following credits in General Education:

- Completion of *all three* quarters counts as:
 - one course in written communication (3 units)
 - one course in Social Science (4 units)
 - two courses in Humanities (8 units)
- Completion of *any two* quarters counts as:
 - two courses in Humanities (8 units)

Completion of *any one* quarter counts as one course in Humanities (4 units)

This sequence does not satisfy the code requirements in U.S. History and Institutions.

The second sequence of the course (General Studies 1101, -2, -3) gives the following credits in General Education:

- Completion of *all three* quarters counts as:
 - one course in Humanities (4 units)
 - one course in Social Science (4 units)
 - one course in Natural Science (4 units)
 - three units of General Education electives
- Completion of *any two* quarters counts as:
 - one course in Humanities (4 units)
 - one course in Social Science (4 units)
 - two units of General Education electives
- Completion of *any one* quarter counts as:
 - one course in Humanities (4 units)
 - one unit of General Education electives

Upper division students may count course work in Western Heritage toward fulfillment of their 16 unit upper division General Education requirement.

Students may enter the course during any quarter.

First Sequence

The Western Heritage sequence Gen. Stud. 1001, -2, -3 has been designed as a great books course beginning with Homer and finishing in the age of Shakespeare and Cervantes. The purpose of the course as a whole is to provide the student with a strong introduction to the classical and Judeo-Christian foundations of western civilization. The course is based on lectures and discussions and requires the reading of one selected text per week for careful study. Students will be required to demonstrate an adequate command of written English by the successful completion of at least ten assigned essays in the course of the year.

Second Sequence

The Western Heritage sequence Gen. Stud. 1101, -2, -3 has been designed to give special attention to the influence of science upon the culture of the modern world. The sequence begins with "The Reasoned Universe." This quarter of the course deals with the scientific revolution of the seventeenth century. It seeks to trace the impact of the Newtonian synthesis on art, literature, philosophy and political theory. The second quarter of the sequence deals with the romantic movement, its relation to the Newtonian world view, and with revolutionary and evolutionary attitudes in literature, philosophy, and science. Western Heritage 1103 covers the period since approximately 1870 and seeks to show the relationship of the new biology, psychoanalysis and post-Newtonian physics to the surrounding cultural life

of western society. The sequence as a whole is based on the assumption that the natural sciences have been a continuous and growing force for cultural and social change over the past three centuries. Today, no decently educated person ought to be without a fundamental knowledge of the many ways in which science has altered our vision of nature, of society, and of ourselves.

ENGLISH AS A FOREIGN LANGUAGE

These courses are offered to foreign students whose knowledge of English is insufficient to enable them to do satisfactory work at Cal State. Students will be placed in these courses as the result of their grades in the Test of English as a Foreign Language (TOEFL). These courses will be offered as the need arises and staff members are available.

For a description of the courses, see **ENGLISH AS A FOREIGN LANGUAGE** in Part III of the catalog.

SCHOOL OF ARTS, LETTERS AND SOCIAL SCIENCES

Departments: **Anthropology, Art, Black Studies, Child Development, English, Foreign Languages and Literatures, Geography, History, Mass Communication, Music, Philosophy, Political Science, Public Administration, Sociology, Speech and Drama**

School Dean: George McMichael

Associate Dean (acting): Sylvia Manning

Associate Dean: Jackson H. Crowell

Department of Anthropology

Professors: Barbara G. Anderson, Edward J. Jay, Robert K. McKnight, Clarence E. Smith

Associate Professors: Lowell J. Bean (Chairman), H. Arlo Nimmo, Michael B. Stanislawski

Assistant Professors: Alan J. Almquist, Peter J. Claus, H. Glynn Custred, Michael G. Kenny, Lindy Li Mark, Susan M. Parman, John E. Rothenberger

Department of Art

Professors: James M. Black, Misch Kohn, Corban LePell, Joseph A. Pugliese, Arne W. Randall, Raymond J. Saunders, Howard Slatoff, Allan Temko, Arne Wolf

Associate Professors: John K. Davis, Lynn M. Louden (Chairman), Harold W. Myers, Melvin J. Ramos

Assistant Professors: Clayton G. Bailey, Lewis S. Carson, Keith W. Dills, Irene Keil, Kenjilo Nanao, James Perrizo, Harold Schlotzhauer, Alan M. Shepp, Lenore Sorenson

Instructor: Clyde L. Wysuph

Department of Black Studies

Professor: Edward E. France (Chairman)

Assistant Professor: Dickson C. Mwalozi

Lecturers: Wendell Brooks, Effie Clark, James Jackson, Willie Jackson, William Love, Arthur Scott, R. C. Thomas

Department of Child Development

Professor: Ivan D. Kovacs (Chairman)

Associate Professor: Donald M. Moorehead

Assistant Professors: Carol S. Becker, Dora Shu-fang Dien, Tom Gong, Ann J. Meyer

Lecturer: Thomas Forrest

Department of English

Professors: Jerry Bryant, Jack Conner, N. V. M. Gonzalez, Benjamin Johnson, George McMichael, Douglas L. Peterson (Chairman), Marc L. Ratner, Morton Rosenbaum, Robert V. Williams

Associate Professors: Edward Clay, Martin Friedman, Jean Kennard, Sylvia Manning, Donald Markos, Gwendolyn Staniforth

Assistant Professors: Zelda Boyd, Jacob Fuchs, Marcelline Krafchick, M. Richard Matthews, Terrence McVeigh, E. J. Murphy

Department of Foreign Languages and Literatures

Professors: Vincenzo Traversa (Chairman), Elie R. Vidal, Marilyn K. Yalom

Associate Professors: Elsa Garcia-Pandavanes, Frauke Gries, Galia Ham, Gunter Mecke, Robert T. Neely, Yolanda Patterson, Luis Ponce de Leon, Rosa Reeves, Helen Schulak, Thomas Tomanek, Earl L. Walpole, R. Thomas Watson, Winfried Weiss

Assistant Professors: Yole Correa-Zoli, Rodolfo Galan-Morillas, Otis Handy, Roland Heine, Jose F. Ovalle, Donald Warrin, Richard Woehr

Lecturers: Emanuel Bloom, Judith Canales, Gerald Korshak, Margaret Sung

Department of Geography

Professors: Robert A. Kennelly, Vincent K. Shaudys, Richard S. Thoman, William L. Thomas, John H. Vann (Chairman)

Associate Professors: Herbert M. Eder, John Lier, Thomas H. Pagenhart

Assistant Professor: Donald G. Holtgrieve

Lecturers: Jeffrey C. Dozier, Robert E. Winter

Department of History

Professors: David B. Chan, Lejeune Cummins (Chairman), Edward E. France, Rodney G. Kennedy-Minott, Robert R. Miller, Richard C. Raack, William C. Reuter, Richard B. Rice, Theodore Roszak, William A. Sullivan, Mark J. Van Aken, John D. Walz

Associate Professors: José A. Fernández, Frank D. Gilliard, Bruce A. Glasrud, John E. Morby, Eugenia Nomikos, Eul-soo Pang, Alan M. Smith, Judith M. Stanley

Assistant Professors: William A. Bullough, Michael W. Dols, W. Mark Fruin, Tom G. Hall, Gerald S. Henig, Hugh H. Knapp, James A. Lott, Richard J. Orsi

Department of Mass Communication

Professors: John Gothberg, Reuben Mehling, David L. Sanders (Chairman)

Lecturers: Bruce B. Brugmann, William T. Slater, Sallyanne D. Wilson

Department of Music

Professors: Norman R. Cory, Denis M. de Coteau, Karl D. Ernst (Emeritus), Frederick A. Fox, Glenn L. Glasow, C. Allen Gove, Rudolph B. Saltzer, Donald King Smith

Associate Professors: Robert D. Basart, Harry H. Carter (Chairman), Carl J. Eberhard, Ernst Gloe, Leland R. Lincoln, Daniel B. Livesay, Kenneth Z. Mansfield, Jerome P. Neff, Marvin D. Nelson, David R. Sprung, Harold P. Whelan, William G. Wohlmacher

Assistant Professors: Tom Acord, Edwin L. Barlow, Roberta Brokaw, Eleanor D. Cohen, David Stein, Ellen Wassermann

Lecturers: Beverly Bellows, Jim Bertram, Jerry Dagg, Merrill Hoover, Jeffrey Neighor, Patricia A. Smith, Helen Stephens

Department of Philosophy

Professors: William Warren Bartley, III, Jean G. Harrell (Chairman), Edward M. MacKinnon, Eugene D. Mayers, Anil K. Sarkar

Associate Professor: Elizabeth H. Wolgast

Assistant Professors: Paul C. Bassen, Norman Buder, Peter P. Kissin, William J. Langan, Steve F. Sapontzis, Joaquín A. Zuñiga

Department of Political Science

Professors: Marilyn-June Blawie, Jackson H. Crowell, Otto F. Freitag, Bernard Hennessy (Chairman), Charles W. Merrifield, J. Malcolm Smith

Associate Professors: Horst G. Duhnke, Scott E. Edwards, Darril Hudson, Sherman L. Lewis, Joanne F. Loomba, James L. Nichols, Gene S. Poschman

Assistant Professors: James S. Fay, Daniel R. Graves, Thomas R. Morrison, Emily Stoper

Department of Public Administration

Professor: Hilary G. Fry

Associate Professor: Jong S. Jun (Chairman)

Assistant Professor: James R. Killingsworth

Lecturers: Jacob H. Abers, S. Blum, Randy H. Hamilton, L. Perry, William J. Sheppard, Richard VrMeer

Department of Sociology

Professors: Peter Geiser (Emeritus), Norman R. Jackman, Richard F. Larson (Chairman), William C. Lawton, Lorenzo H. Snow

Associate Professors: Richard G. Ames, A. K. Basu, Benjamin C. Carmichael, Robert C. Forthman, Shirley M. Hartley, Elizabeth D. Huttman, Basil J. Sherlock, Nadia Youssef

Assistant Professors: Robert G. Dunn, Margaret-Mary Franz, David B. Graeven, Karl L. Schonborn, Willem B. Van Groenou

Lecturer: Terry Jones

Department of Speech and Drama

Professors: G. Harold Barrett, John Cambus (Associate Chairman), Jeanne L. Hall, Robert C. Martin

Associate Professors: John E. Baird, James O. Costy (Drama Coordinator), John C. Hammerback (Chairman), Donald B. Muir, Robert A. Veder

Assistant Professors: Rhoda L. Agin, Thomas C. Hird, Daniel S. Prentice, William S. Rosenthal, Virginia A. Willems

Instructor: Richard Barulich

Lecturers: Louise A. Hanover, Ralph H. Salgado, Jack A. Samosky

CURRICULA OFFERED

Master's Degrees

Anthropology (M.A.)
English (M.A.)
French (M.A.)
Geography (M.A.)
History (M.A.)

Music (M.A.)
Political Science (M.A.)
Public Administration (M.P.A.)
Sociology (M.A.)
Speech (M.A.)

Baccalaureate Degrees

Anthropology (B.A.)
Art (B.A.)
Black Studies (B.A.)
Child Development (B.S.)
Drama (B.A.)
English (B.A.)
French (B.A.)
Geography (B.A.)
German (B.A.)
History (B.A.)

Latin American Studies (B.A.)*
Mass Communication (B.A.)
Mexican American Studies (B.A.)*
Music (B.A.)
Philosophy (B.A.)
Political Science (B.A.)
Sociology (B.A.)
Spanish (B.A.)
Speech (B.A.)
Speech Pathology and Audiology (B.S.)

Academic Minors

Anthropology
Art
Creative Writing
Drama
French
Geography
German
History

Mass Communication
Philosophy
Political Science
Russian
Sociology
Spanish
Speech
Speech Pathology and Audiology

Other Programs (faculty listed on page 96)

American Studies Concentration
Asian-American Studies Concentration
Comparative Studies in Asian Cultures

Native American Studies
Concentration
South Asia Studies Concentration

THE DEPARTMENT OF ANTHROPOLOGY

PURPOSES

California State University, Hayward offers a variety of curricular approaches to anthropology, the study of man, including the B.A. and M.A. Degrees. The intent of the anthropology program is to provide a richly cross-cultural and time-depth study of man as the product of both evolutionary and cultural conditions. As a liberal arts curriculum, the program helps the student to understand the self in relation to biological and cultural evolution and in relation to persons of other cultural and ethnic backgrounds. Regional courses on the major populations of the planet are of

* An interdisciplinary major.

fered, with particular emphasis placed on North and South America and Asia. The baccalaureate degree major in anthropology signifies completion of a breadth of study providing increased freedom of perspective in preparation for a variety of career opportunities in people-contact fields, particularly those involving cultural or ethnic diversity: in teaching, industry, government, law, developmental agencies, public relations, social research, etc. through an emphasis in Biological Anthropology or Archeology-Prehistory, the student receives a career foundation applicable to public health, state salvage archeology or park service, or museum curator positions. Anthropology also provides a foundation for secondary teaching careers particularly with major units on anthropology appearing with greater frequency in high school social science courses. (Students interested in pursuing a Teaching Credential should consult advisers in the Anthropology and Teacher Education departments. The B.A. Degree Major, which is general in character, provides a sound foundation for advanced studies in anthropology. Systematic Options, which allow some funneling of special interests, are offered in four sub-disciplines:

1. Archaeology and Prehistory: the development of cultural systems in the past;
2. Biological Anthropology: human biology, human variation, and evolution;
3. Socio-cultural Anthropology: social and cultural systems with emphasis on contemporary populations; and
4. Symbolic Anthropology: the structure of ideas, language behavior, and communication in cross-cultural perspective.

In addition to the general major leading to the B.A. degree major in Anthropology, the Department offers a Minor in Anthropology, participates in the Asian Studies Program, the Concentration in Women's Studies, and the Anthropology Special Emphasis in the Liberal Studies Major.

The Anthropology Major Leading to the B.A. Degree

Requirements

- I. Complete the 76-unit requirement in General Education for the B.A. degree. Recommended Courses: Comparative Studies in Asian Cultures (Asia 3011, -12, -13) and/or The Western Heritage (G.S. 1001, -2, -3) and/or The Native American Experience (NAS 2100).
- II. Required Courses in other departments:
 - A. Biol. 1000, or 1101 or 2040 (4-5 units)
 - B. Earth Sci. 2101 (5 units).
 - C. Stat. 1000 or 1100, or Math. 1700 or 1801 (4-5 units).
 - D. FLan. 1 -- 1, 1 -- 2, 1 -- 3; or a demonstrated reading competence (0-12 units).

Any or all of the above (I and II), taken while a lower division student, apply toward Lower Division General Education requirements in Natural

Sciences, in Basic Subjects and Electives. Up to 27 units of the required courses (II above) may count toward Lower Division General Education. If taken while an upper division student, up to 16 units will count toward Upper Division General Education requirements.

III. Required Courses in Anthropology.....	68-70 units
A. Lower Division	16
Anth. 2100, 2200, 2300, and 2800 (Anth. 3000 may be substituted for Anth. 2300 on approval of adviser and Department Chairperson.)	
B. Upper Division	52-54
All majors will select a three-course (12-14 units) Systematic Option (see below 7a-d) as approved by adviser.	
1. Anth. 3100, one course in 3200 or 4200 series,* and 3400.	
2. One course from the following: Anth. 3300, 3330, 3350.	
3. Two courses from the following: Anth. 3500, 3505, 3510, 3515, 3518, 3520, 3535, 3540, 3560, 3570, 3575, 3590, 3595, 4500, 4550 (with 4555, 4556, 4557).	
4. One course from the following: Anth. 4700, 4710, 4720.	
5. One course from the following: Anth. 4810, 4820.	
6. Anth. 4600 and 4910.	
7. Three courses from one of the following four groups (Systematic Option):	
a. Archaeology and Prehistory: (Anth. 3230, under 1. above), Anth. 4245 and two of Anth. 3200, 3220, 3240, 4130, 4230, 4450, 4510	
b. Biological Anthropology: Anth. 3110, 4120, 4130.	
c. Socio-Cultural Anthropology: Anth. 4310 and two of Anth. 3460, 3810, 3820, 3830, 3850, 4230, 4320, 4330, 4340, 4420, 4440, 4450, 4510, 4830, and 4840.	
d. Symbolic Anthropology: Anth. 3800 and 3805 and two of Anth. 3810, 3820, 3830, 3850, 4810 (if not taken to complete general requirements for major), 4820 (if not taken to complete general requirements for major), 4830 and 4840.	

* Students designating Archaeology and Prehistory Systematic Option must take 3230.

Courses listed under Anthropology, p. 243, which are not included in the specific requirements for the major as well as DGS courses (4920-99 series) may be substituted for major requirements upon approval of the adviser and Department Chairperson.

IV. Unit Summary

1. General Education	76* units
2. Major: courses in Anthropology.....	68-70
courses in supporting fields	13-27*
3. Electives	40-42*
B.A. degree total	186

V. Recommended Courses in Supporting Fields

1. *Archeology and Prehistory Option*
Hist. 3101 or 3300; Earth Sciences 2201; Geog. 2100, 2300, 3410; MCom. 2700
2. *Biological Anthropology Option*
Biol. 1101,-2, 3020, 3520, 3570, 4560; Earth Sciences 2201, 3520
3. *Socio-Cultural Anthropology Option*
One upper-division history course (regional); one upper-division course in philosophy or literature; Psych. 3500 or Soc. 3500; two upper-division courses in geography, political science, sociology, or social science

The Anthropology Minor

Requirements: thirty-six (36) quarter units in Anthropology, to be taken in approximately the following order: a. Anth. 2300 (3000 may be substituted); b. Two of the following: Anth. 2100, 2200, 2800, 3200, 3400; c. Two courses in the 3500 series (only two (2) from this series may be applied toward the minor); d. Three additional 3000 and/or 4000 series courses (excluding 3500 series courses); and e. Anth. 4600.

Other Majors and Concentrations

The Department of Anthropology offers a Concentration within the Liberal Studies major and participates in Concentrations in Asian Studies, Native American Studies, and Women's Studies.

General Education Courses in Anthropology

Lower Division (area requirements in social science or elective course): Anth. 1000

Upper Division (upper-division social science course): Anth. 3000

Other courses may be taken with the consent of the instructor.

* Up to 27 units of courses may fulfill both a major and General Education requirement, but units are counted only once toward the 186 units total for the degree.

The Master of Arts Degree in Anthropology

For a complete description of the program leading to a Master of Arts in anthropology, see the Graduate Catalog.

THE DEPARTMENT OF ART

The Art Major Leading to a B.A. Degree

Requirements

STUDIO OPTION

I. Complete the 76 unit requirement in general education.	
II. Courses in Art	79 units

Lower Division	25 units
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The following lower division courses must be completed before entering into upper division work.

Art 1010. The Idea of Art History.....	5 units
Art 1110. Art I	5
Art 1120. Art II	5
Art 1130. Art III.....	5
Art 1140. Drawing I	5

Upper Division	54 units
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The student will be expected to complete a minimum of 54 units from the list below, or any other upper division art courses, with the approval of the adviser. Fifteen units must be in one area.

Art 4001. Seminar in Contemporary Art Criticism	4 units
Art History (two courses)	10

Any courses from the following to total 40 units:

Art 3141. Drawing II.....	5
Art 3142. Drawing III.....	5
Art 3143. Drawing IV	5
Art 3211. Painting I.....	5
Art 3212. Painting II	5
Art 3213. Painting III	5
Art 3311. Sculpture: Introduction	5
Art 3312. Sculpture: Direct Metal	5
Art 3315. Sculpture: Casting: Metals	5
Art 3316. Sculpture: Casting: Plastics	5
Art 3317. Sculpture: Casting: Hydraulic Materials ..	5
Art 3314. Sculpture: Plastics	5
Art 3511. Ceramics I	5
Art 3512. Ceramics II	5
Art 3513. Ceramics III	5
Art 3521. General Crafts I	5

Art 3522. General Crafts II	5
Art 4110. Optional Media.....	5
Art 4521. Jewelry	5
Art 4533. Sculpture: Various Media	5
Art 4611. Printmaking: Serigraphy	5
Art 4612. Printmaking: Lithography	5
Art 4613. Printmaking: Intaglio	5
Art 4630. Calligraphy	5
Art 4655. Visual Communication I	5
Art 4656. Visual Communication II.....	5
Art 4683-93. Advanced Studio Practice	5

Unit Summary

a. General Education	76 units
b. Major: Courses in Art	79
c. Electives	31
B.A. degree total	186 units

OPTION IN ART HISTORY

- I. Complete the 76 unit requirement in general education.
- II. Complete the following requirements in this sequence of art courses, totaling 76 units.

Lower Division	30 units
Art 1110. Art I	5
Art 2000. Art in the Western World: Primitive to 1000 AD	5
Art 2001. Art in the Western World: 1000 to 1700 ..	5
Art 2002. Art in the Western World: 1700 to the Present	5
Art electives by advisement	10

Upper Division	46 units
Art 4090. Seminar in Art History	5
Art 4001. Seminar in Contemporary Art Criticism ..	4
Art 4900. Independent Study	4
Art electives by advisement	13
Two courses from one of the following sequences	10
(a) Art 3041. Art of the Ancient Near East	
Art 3042. Art of Greece and Rome	
Art 3050. Medieval Art History	
(b) Art 4040. The Art of China	
Art 4050. The Art of India	
(c) Art 3061. Italian Renaissance Art	
Art 3062. Northern Renaissance Art	
Art 3063. Baroque and Rococo Art	
(d) Art 3071. Nineteenth Century Art	
Art 3072. Twentieth Century Art	

Art 3073. Art in the United States	
Two additional upper division Art History courses....	10
Unit Summary	
a. General Education	76 units
b. Major: Courses in Art	76
c. Electives	34
B.A. degree total	186 units

The Art Minor

Requirements

See Art adviser for approval.

Requirements include a minimum of 40 units in courses selected as follows:

	<i>Units</i>
A. Art 1110. Art I	5
Art 1120. Art II	5
Art 1130. Art III	5
Art 1140. Drawing I	5
B. Any two upper-division Art History courses.....	10
C. Any two upper-division Art Studio courses	10
	<u>40</u>

THE DEPARTMENT OF BLACK STUDIES

The Black Studies Major Leading to a B.A. Degree

Requirements

I. Complete the 76-unit requirement in general education required for the B.A. and B.S. degrees. Students who complete this major may apply up to 12 units of Art, Drama, English literature, History, Music, and Philosophy courses in satisfaction of the area requirement in Humanities, up to 12 units in Anthropology, Geography, Political Science, and Sociology courses in satisfaction of the area requirement in Social Science (additional social science courses taken under 2 b (1) below may complete the elective requirement), and up to 16 units of Anthropology, Geography, Political Science, and Sociology courses in satisfaction of the upper-division general education requirements provided they have not already been applied to the Social Science area or elective requirements. In addition, the Performing Arts and Activities requirement is satisfied if Art 2010 or Dr. 4160 is taken.

II. Courses in the Black Studies major

1. Lower Division
- a. Black Studies 1001, -2, -3(12)

76 units

24 units

b. Twelve units from Black Studies 1510, 2310, 2320, 2410; Art 2010; Phil. 2110	(12)
2. Upper Division.....	52 units
a. Black Studies 4890 and 4899	(8)
b. Twenty-four units in either of the following options:	(24)
(1) Humanities, History, and Performing Arts	(24 units)
Black Studies 3001, -2, -3; 3020, 4010, 4020; Engl. 3691, 3692, 3790; Hist. 4515, 4516; Mus. 3115; Phil. 3510, 3520; Dr. 4060.	
(2) Economics, Political and Social Issues	(24 units)
Black Studies 3110, 4100, 4110, 4120, 4130; Anth. 3575; Geog. 3575; Pol. Sci 4260; Soc. 3415, 3520, 4450, 4455	
c. Twenty units of upper division electives chosen from the option not selected as the student's option and/or from other courses in the CSUH curriculum approved by the student's adviser.	
3. Summary of the Major	
Total lower division units required.....	12
Total lower division units elective	12
Total upper division units required	8
Total upper division units elective	44
Unit Summary	
a. General Education	76
b. Major: Courses in Black Studies.....	24-76
Courses in supporting fields *	0-52
c. Electives *	34-73
B.A. degree total	186

III. Further courses recommended

Knowledge of a foreign language is strongly recommended. (These courses may be applied to the General Education requirement in Basic Subjects.)

Candidates for Teaching Credentials must consult with advisers in the Black Studies Department and in the School of Education.

THE DEPARTMENT OF CHILD DEVELOPMENT

The Department offers courses in the field of human development which may fulfill general education requirements, special requirements in various programs of other departments and a major program leading to a bachelor's degree. Human development is an emerging interdisciplinary field of study concentrating on the development of the organism, of experience and of interaction throughout the entire lifespan, and on the transformations in the underlying structures and processes of being human.

* Up to 39 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

The Child Development Major Leading to a B.S. Degree

The major prepares students to work with and understand people from infancy through old age from various sociocultural backgrounds. The program aims to develop the students' knowledge, intellectual and interactional abilities leading to further specialization in the areas of health, education, welfare, human relations, personnel, etc. (either in the area of professional service or research).

Although the program is listed in the social science area, it is broader in scope since it draws on disciplines which deal with biological, behavioral, experiential and sociocultural aspects of development. After an intensive study of development from conception to death, and of the various theoretical and methodological approaches to it, students specialize in an area of their choice and develop their program under faculty guidance. The program is open for day and night, full and part-time students.

Requirements

I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees. Students who complete this major may apply up to 20 units of the lower division requirement and 12 units of the upper division requirements for the major to general education requirements as follows: up to 12 units of Black Studies, Philosophy and Speech courses in satisfaction of the requirement in Humanities (I.B.1.); up to 15 units of Biology and Psychology courses in satisfaction of the requirement in Natural Sciences (requirement I.B.2.) up to 12 units in Anthropology, Mexican-American Studies, Economics, Political Science, and Sociology courses in satisfaction of the requirement in Social Sciences (requirement I.B.3.); up to 9 units of Foreign Language, Mathematics, Statistics, or Philosophy (Logic) courses in satisfaction of the requirement in Basic Subjects (requirement I.A.2.). Courses in Humanities and Natural Sciences may also be applied to the electives (II.C.2.) and/or upper division general education requirement (requirement II.).

II. Courses in the major 80 units
 1. Lower Division 20 units

In preparation for the upper division program students must take 20 units from any combination of the following categories, with no more than 12 units in any one category. It is especially advantageous to have some background in categories b and g before entering the junior program.

- a. Anthropology
- b. Human Biology, including Biochemistry, Pharmacology
- c. Child Development
- d. Economics, including Demography and Political Science
- e. Ethnic or Area Studies or Foreign Language

- f. Human Development
- g. Mathematics, Statistics, Philosophy, Linguistics, Communication Science
- h. Psychology
- i. Sociology
- j. Speech Pathology

Other categories may be added with Departmental approval.

2. Upper Division 60 units

- a. Human development core sequence (36 units)
 CDev. 3001, 3002, 3003. Behavioral and Biological Approaches in Human Development I, II, III—(9 units)
- CDev. 3011, 3012, 3013. Sociocultural and Experiential Approaches in Human Development I, II, III—(9 units)
- CDev. 3021, 3022, 3023. Structure and Dynamics of Human Development I, II, III—(9 units)
- CDev. 3031, 3032, 3033. Process of Human Development I, II, III—(9 units)

The sequence is available for day or night students, full or part-time. The department may be able to make space reservations in advance for the sequence.

In most of these courses faculty members team teach to bring to bear their different backgrounds on the same topics. Faculty members come from various disciplinary areas such as anthropology, linguistics, medicine, psychology and sociology, and have different orientations such as phenomenological, psychoanalytic, structuralist, etc. Small seminars, laboratory and field assignments are to help students to integrate their learning and develop their cognitive, interactional and problem solving abilities.

b. After completion of the human development core sequence students specialize in an area of study such as development of an age group, or in a socio-cultural group, a special aspect of, approach to, or problem area of development, etc.

Specialized sequence (12 units)

Twelve units of upper division courses. Selection must be made under departmental faculty guidance from the categories listed in Section II, 1.

Senior projects (12 units)

Twelve units of individual and cooperative study. The courses are:
 CDev. 4880. Senior Group Project—4 units
 CDev. 4890. Senior Individual Project—4 units
 Any other upper division CDev. course(s)—4 units

Unit Summary

a. General Education †.....	76	
b. Major: courses in Child Development courses in supporting fields †	48-80} 0-32}	80 units
c. Electives	30-62	
		—
B.S. degree total.....	186	

Honors Program

Students with a major and overall G.P.A. of at least 3.5 may apply for acceptance in the Departmental Honors Program while taking CDev. 3032. Honors students take their 12 unit Specialized Sequence in the Department Honors' Sequence. They graduate with Departmental Honors if they maintained a 3.5 or higher major and overall G.P.A. and obtained a B or above in their Senior Individual Project.

THE DEPARTMENT OF ENGLISH**ADVANCED PLACEMENT, ENGLISH**

An English student who has successfully completed the advanced placement course in English in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination * will be granted 10 units of credit equivalent to Engl. 1813 and either Engl. 2030 or Engl. 2040. **

An English student who has earned 10 units of credit through the Advanced Placement Examination is encouraged to challenge Engl. 1001. A successful challenge will earn 3 units of credit for Engl. 1001. (See *Credit by Examination*, p. 65.)

The English Major Leading to a B.A. Degree**Requirements**

- I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees. Students who complete this major may apply up to 8 units of Foreign Language courses in satisfaction of the requirement in Basic Subjects (requirement I.A.2) and up to 20 units of appropriate and approved upper-division courses outside of English in satisfaction of the requirements in Humanities, Social Sciences, or upper-division general education (requirements I.B.1, I.B.2, II) (see major requirement below, II.2.d).
- II. Courses in English Major 70 units
 1. Lower Division 10 units

† Up to 32 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186 unit total for the degree.

* This is prepared and offered by the College Entrance Examination Board.

** No letter grade will be assigned or computed in the student's grade point average.

After completing Engl. 1001 (in G.E. requirement of item 1), complete Engl. 2030 and Engl. 2040 in the lower division. The Department may approve for a transfer student other lower-division courses in English literary study and composition equivalent to Engl. 2030 and 2040

2. Upper Division 60 units

Upper-division units (planned with an English Department adviser) to fulfill the following requirements:

 - a. Course work in the structure and development of the English language: Engl. 3010 or 3040 or 3060.. 5 units
 - b. Course work in major figures:
 - 1) Chaucer (Engl. 4151)..... 5
 - 2) Shakespeare (Engl. 4251)
 - c. One course in each of the following periods:
 - 1) English literature before the end of the Renaissance, exclusive of Engl. 4151 and Engl. 4251; choose from Engl. 3710, 3720, 4152, 4220, 4252, 4260, 4810
 - 2) English literature of the Restoration and 18th century; choose from Engl. 4325, 4813, 4831
 - 3) English literature of the 19th century; choose from Engl. 3740, 3750, 4411, 4412, 4832
 - 4) American literature before 1914; choose from Engl. 4634, 4635, 4636, 4860
 - 5) English or American literature of the 20th century; choose from Engl. 3691, 3692, 3760, 3790, 4637, 4816, 4827, 4833, 4870, 4876
 - d. Twenty other upper-division units. Any course from another Department must have the approval of the Chairman of the English Department
 - e. At least two courses in items c and d above must be genre courses, and one must be in a genre other than prose fiction; choose from Engl. 3801, 4810, 4816, 4820, 4827, 4831, 4832, 4833, 4836, 4860, 4870. 20
- III. Courses in Supporting fields 0-24 units

Demonstrate a reading knowledge of a foreign language either (1) by completing the third quarter of Intermediate (second-year) Foreign Language or the third quarter of Foreign Language Reading with a grade of "C" or better or a grade of "credit" or (2) by passing a foreign language examination administered by the English Department.

Unit Summary

a. General Education *	76 units
b. Major: courses in English	70
courses in supporting fields **	0-24
c. Electives *	32-72
BA. Degree Total	186

CONCENTRATION IN AMERICAN STUDIES

An English major may graduate with a concentration in American Studies (see *American Studies* under *Interdisciplinary Offerings* in this Catalog).

Minor in Creative Writing

Any candidate for the Bachelor's Degree may also elect to obtain a Minor in Creative Writing. After completing Engl. 1001, he must complete from 33 to 34 quarter units, approved by a Creative Writing adviser.

1. Engl. 2070. Beginning Workshop in Fiction (4)	4 units
2. Select a minimum of 20 quarter units from	
Engl. 3070. Intermediate Workshop in Fiction (4)	
Engl. 3075. Intermediate Workshop in Poetry (4)	
Engl. 4070. Advanced Workshop in Fiction (4)	
Engl. 4075. Advanced Workshop in Poetry (4)	
Engl. 4080. The Art of Translation (4)	
Engl. 4900. Independent Study in Creative Writing (maximum of 4 quarter units) (1-4)	
Drama 4415. Playwriting (4)	20-24
3. Upper-division Modern American or British literature, or genre courses	5-10
Total	33-34

NOTE: Creative Writing courses may be repeated for credit.

Master of Arts in English

For information on the requirements for the degree and admissions procedures, see the Graduate Catalog.

* Up to 28 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

** Up to 20 Upper Division units in a related field may be counted here with approval of the adviser and department chairman.

**THE DEPARTMENT OF FOREIGN LANGUAGES
AND LITERATURES****ADVANCED PLACEMENT, FOREIGN LANGUAGE**

A foreign-language student who has successfully completed the advanced-placement course in a foreign language in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination * will be granted unit credit for three courses of foreign language (12 units). (No letter grade will be assigned or computed in the student's grade-point average.)

The French Major Leading to B.A. Degree**Requirements**

1. Complete the 76-unit requirement in General Education required for B.A. and B.S. degrees.	
2. Courses in French	66 units
A. Lower Division	24 units
FLan. 1101, -2, -3	(12)
FLan. 2101, -2, -3, or equivalent (FLan. 2120 is strongly recommended)	(12)
B. Upper Division	42 units
FLan. 3101, 3102, 3111, 3112	(16)
Twenty-eight units from among the other upper division courses	(28)

Unit Summary

A. General Education	76
B. Major: courses in French	66
C. Electives	44
B.A. degree total	186

3. Further courses recommended	
Acquisition of a reading knowledge in a second foreign language is strongly recommended.	

Candidates for the Single Subject Teaching Credential in French should complete (a) a baccalaureate degree with a major in French, (b) the requirements for admission to teacher education, and (c) the required professional courses in teacher education, including FLan. 5080. Consult with advisers in French and the School of Education for details.

The French Minor

1. In lower division, complete requirement (2) under French major.
2. In upper division, complete FLan. 3101, -2, FLan. 3112 and two courses from the following sequence: FLan. 3121, -2, -3.

Master of Arts in French

For information on the requirements for the degree, and admissions procedures see the Graduate Catalog.

The German Major Leading to a B.A. Degree

OPTION IN GERMAN LANGUAGE AND LITERATURE

Requirements

1. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees.
2. Courses in German 69 units
 - A. Lower Division 24 units

FLan. 1201, -2, -3 (12)
FLan. 2201, -2, -3 or equivalent (12)
 - B. Upper Division 45 units

FLan. 3201, 3202, 3210 (12)
Thirty-three units in upper-division German courses. A maximum of two "German Courses in English" can count toward the major (33)

Unit Summary

A. General Education	76 units
B. Major: courses in German	69
C. Elective	41
B.A. degree total	186

3. Further courses recommended

Acquisition of a reading knowledge in a second foreign language is highly recommended.

OPTION IN GERMAN STUDIES

Requirements

1. Complete the 76-unit requirement in general education required for the B.A. and B.S. degrees. Students who complete this option may apply up to 12 units of upper-division Social Science courses in satisfaction of the area requirement in Social Sciences (requirement I.B.3) and up to 12 units of upper-division Humanities courses in satisfaction

of the requirement in Humanities (requirement I.B.1). If not used to fulfill the Social Science area requirement, the Social Science courses may be applied to electives (C2) and/or upper-division General Education. (See requirement 3 for the major, below.)

2. Courses in German 50 units
 - A. Lower Division 24 units

FLan. 1201, -2, -3 (12)
FLan. 2201, -2, -3 or equivalent (12)
 - B. Upper Division 26 units

Complete at least 26 units in upper division German courses. A maximum of four "German Courses in English" (see Description of Courses) can count toward the major. The sequence FLan. 3201, -2 is highly recommended.
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3. Courses in supporting fields 24 units

Complete at least 24 units in upper division courses outside the German Division, but in the Central European field, to be planned and presented for approval to the German Division by the student. The aim of this program, which allows maximum flexibility, is to allow the student to plan a more broadly based major. The student can combine the study of German with such fields as art history, comparative literature, economics, history, musicology, philosophy, political science, etc.
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Unit Summary

A. General Education *	76
B. Major: courses in German.....	50
courses in supporting fields *	24
total.....	74
C. Electives *	60
B.A. degree total	186

4. Further courses recommended

Acquisition of a reading knowledge in a second foreign language is highly recommended.

Candidates for the Single Subject Teaching Credential in German should complete: (a) a baccalaureate degree with a major in German including at least 36 units in upper division German, (b) the requirements for admission

* Up to 24 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

to teacher education, and (c) the required professional courses in teacher education, including FLan. 5080. Consult with advisers in German and the School of Education for details.

The German Minor

1. In lower division, complete requirement (2) under German major.
2. Complete 24 units in upper division German courses, including FLan. 3201, -2, FLan. 3210. Courses from the series FLan. 3221, -2, -3 are highly recommended.

The Russian Minor

1. Lower Division: Complete the 24 units provided by FLan. 1501, -2, -3, and FLan. 2501, -2, -3 (or equivalent).
2. Upper Division: complete FLan. 3501, -2, -3, 3521, and 3585, -6.

The Spanish Major Leading to a B.A. Degree

Requirements

1. Complete the 76-unit requirement in General Education required for B.A. and B.S. degrees.
2. Courses in Spanish..... 80 units

A. Lower Division.....	24 units
FLan. 1401, -2, -3. Elementary Spanish	12
FLan. 2401, -2, -3. Intermediate Spanish	12
FLan. 2410. Spanish Conversation (4) (strongly recommended)	
B. Upper Division	56 units
FLan. 3401, -2, -3. Advanced Composition and Syntax	12
FLan. 3404. Creative Writing (can be substituted for one quarter of the sequence FLan. 3401, -2, -3)	
FLan. 3411, -12. Spanish Linguistics, Phonetics	8
FLan. 3461, -2, -3. Spanish-American Literature survey courses	12
any three of:	
FLan. 3418, -19, -20, -21, -22. Spanish civilization and Spanish literature survey courses	12
Twelve units from upper division courses in Spanish and/or Spanish-American literature	12

Unit summary

A. General Education	76
B. Major: courses in Spanish	80
C. Electives.....	30
 B.A. degree total	186
3. Further courses recommended	
Proficiency in another foreign language, both audio-lingual and reading, is strongly recommended.	
4. Candidates for the Single Subject Teaching Credential in Spanish should complete (a) a baccalaureate degree with a major in Spanish and (b) the required professional courses in teacher education, including FLan. 5080. Consult with the Foreign Language Department adviser in Teacher Education and with the School of Education for details.	

The Spanish Minor

1. Lower Division: As outlined above for the Spanish major.
2. Upper Division

A. FLan. 3401, -2, -3. Advanced Composition and Syntax (FLan. 3404. Creative Writing can be substituted for one quarter of the sequence FLan 3401, -2, -3.)	12
B. FLan. 3412. Spanish Phonetics.....	4
C. One course from either of the two following sequences: FLan. 3418, -19, -20, -21, -22. Spanish civilization and literature survey courses.....	4
FLan. 3461, -2, -3. Spanish-American literature survey courses.....	4

THE DEPARTMENT OF GEOGRAPHY

Geography is the study of the spatial distributions and space relations within the Man-Environment System composing the surface of the earth. Attention is focused upon historic and contemporary man's activities within the context of his bio-physical and cultural environment, and his emergence as one of the major agents of change on the earth's surface. For the baccalaureate degree in Geography (B.A.), a choice of two options is offered: Liberal Arts and Pre-Professional.

Study for the baccalaureate degree in Geography (B.A.) via the Liberal Arts option provides for a liberal education, and prepares one for positions in business, government, service in foreign areas, and especially teaching. When combined with electives in art, music, English, foreign languages, and mathematics, geography is excellent preparation for elementary teaching. When combined with other social science fields (anthropology, economics, history, political science, sociology, social psychology, social science), geography is excellent preparation for secondary teaching in social studies. Combining an emphasis in physical-biotic geography with other science fields (biology, chemistry, earth sciences, mathematics, physics, psychology, statistics) is excellent preparation for secondary teaching in science. An M.A. degree is required for Community College instruction. Courses are offered for an academic minor in Geography for students majoring in other fields of study. For information about the Geography concentration in the Liberal Studies major contact the Interdisciplinary Office, MI 4041.

Within the Pre-Professional option in the baccalaureate degree in Geography (B.A.), a choice of one from among six special emphases is offered: 1) cartography, 2) cultural, 3) physical-biotic, 4) resources management, 5) urban geography, and 6) individual. The Pre-Professional option prepares one for advanced study (M.A. and Ph.D. degree programs) in graduate schools of Geography, and for positions in urban and regional planning, resource management, map design and production, business, government, service in foreign areas, teaching, and research.

The Geography Major Leading to a B.A. Degree

OPTION: LIBERAL ARTS

This route to the major is particularly appropriate for students proceeding toward a teaching credential, or not having a career objective in Geography. It consists of not less than 57 nor more than 59 units of *upper-division* geography courses.

Requirements

1. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees.

Recommended Courses:

IN BASIC SUBJECTS: Engl. 1001 and either Statistics or Foreign Language or Mathematics.

IN HUMANITIES: Western Heritage (G.S. 1001, -2, -3) or South Asian Cultures (Asia 3011, -12, -13), or Foreign Language or History or Philosophy.

IN NATURAL SCIENCES: Biol. 1000, E.Sc. 2101, and Mathematics or Statistics.

IN SOCIAL SCIENCES: Anthropology or Child Development or Economics or Political Science or Social Science or Sociology or Teacher Education.

IN ELECTIVES: Include at least one ethnic studies course (Asian-American, Black Studies, Mexican-American, Native-American). Teacher Education courses may satisfy elective and/or Upper Division General Education requirements.

Students who complete this major may apply up to 16 units of Foreign Language courses in satisfaction of the requirements in Basic Subjects, electives and/or upper division general education (requirements I.A.2, I.C.2 and II), or up to 13 units of Statistics courses or 16 units of Mathematics courses in satisfaction of the requirements in Basic Subjects, Natural Sciences, electives and/or upper division general education (requirements I.A.2, I.B.1, I.C.2 and II). If Geog/ESci 4100 is taken, it may be applied to the Natural Science requirement.

II. Courses in Geography	69-71	units
1. Lower Division	12	units
Geog. 2100. Principles of Physical Geography	4	
Geog. 2300. Principles of Cultural Geography	4	
Geog. 2310. Economic Geography	4	
2. Upper Division	57-59	units
<i>Junior Year</i>		
Geog. 3400. Field Geography of the San Francisco Bay Region	5	
Geog. 3450. Geographic Literature and Research Aids....	4	
<i>Junior and/or Senior Year</i>		
<i>One of:</i>		
Geog. 3100. Descriptive and Regional Climatology		
Geog. 4100. Principles of Geomorphology		
		4-5
<i>One of:</i>		
Geog. 3410. Map and Aerial Photo Reading and Interpretation.....		
Geog. 3600. Cartographic Principles and Graphic Communication.....		
Geog. 4430. Application of Quantitative Methods in Geography		
		4
<i>One of:</i>		
Geog. 3300. Historical Cultural Geography		
Geog. 3330. Urban Geography: The Modern City		
Geog. 3340. Population, Settlement, and Mobility		
Geog. 4300. Political Geography.....		
Geog. 4301. Regional Development		
		4

One of:

Geog. 3320. Agricultural Land Utilization.....	4
Geog. 4320. Geography of Energy Resources	
Geog. 4350. Water Resources and Their Management	

Eight elective upper-division courses in geography, to include at least two but no more than three courses in regional geography (3500 series) from at least two different instructors 32-33

NOTE: The following courses or their equivalents would have to be completed if a student in the liberal arts option in the B.A. in Geography desired to enter the M.A. degree program in Geography:

- Geog. 3410. Map and Aerial Photo Reading and Interpretation;
- Geog. 3420. Field Observation and Report Writing,
or a departmental examination of competence in field observation and report writing;
- Geog. 3600. Cartographic Principles and Graphic Communication,
or Geog. 4430. Application of Quantitative Methods in Geography;
- Geog. 4800. Growth of Geographic Thought.

Proficiency Requirement in foreign language or statistics or mathematics:

Fulfill one of the following three groups of courses, or equivalent:

Foreign Language:

One year of college-level courses in one modern foreign language (1-1, 1-2, 1-3, or 1-4, 1-5, 1-6, or equivalent), or demonstrate reading competence by means of a departmental foreign language examination given once each quarter during either the registration period or the first week of instruction. (0-16)

Statistics:

Stat. 1000. Elements of Probability and Statistics, or equivalent;
Stat. 3010. Statistical Methods in the Social Sciences;
Geog. 4430. Application of Quantitative Methods in Geography;
plus one 4000-level Statistics course (17)

Mathematics

Math. 1300. Elementary Functions and Coordinate Geometry
Math. 1304. Calculus I
Math. 1305. Calculus II
Math. 2304. Calculus III (6)

Unit summary

a. General Education *.....	76
b. Major: courses in Geography	69-71
c. Electives	34-41

B.A. degree total 186

* Up to 21 units of courses may fulfill both a major and GE requirement, but are only counted once toward the 186-unit total for the degree.

OPTION: PRE-PROFESSIONAL

This alternate route to the major is appropriate for students with a career objective in professional Geography that requires entry into a graduate school program for the M.A. or Ph.D. degrees. It consists of not less than 55 nor more than 66 units of *upper-division* geography courses. All students will choose a two-course (8 unit) regional emphasis and a four-course (17-18 unit) systematic emphasis, as approved by adviser.

Requirements

- I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees.

Recommended Courses:

IN BASIC SUBJECTS: Engl. 1001 and either Statistics or Foreign Language or Mathematics.

IN HUMANITIES: Western Heritage (G.S. 1001, -2, -3) or South Asian Cultures (Asia 3011, -12, -13), or Foreign Language or History or Philosophy.

IN NATURAL SCIENCES: Biol. 1000, E.Sc. 2101, and Mathematics or Statistics.

IN SOCIAL SCIENCES: Anthropology or Child Development or Economics or Political Science or Social Science or Sociology.

IN ELECTIVES: Include at least one ethnic studies course (Asian-American, Black Studies, Mexican-American, Native-American). Teacher Education courses may satisfy elective and/or Upper Division General Education requirements.

Students who complete this major may apply up to 16 units of Foreign Language courses in satisfaction of the requirements in Basic Subjects, electives and/or upper division general education (requirements I.A.2 and II), or up to 13 units of Statistics courses or 16 units of Mathematics courses in satisfaction of the requirements in Basic Subjects, Natural Sciences, electives and/or upper division general education (requirements I.A.2, I.B.1, and II). If Geog/ESci 4100 is taken, it may be applied to the Natural Science requirement.

II. Courses in Geography	67-68 units
1. Lower Division.....	12 units
Geog. 2100. Principles of Physical Geography	4
Geog. 2300. Principles of Cultural Geography	4
Geog. 2310. Economic Geography	4
2. Upper Division.....	55-56 units

Junior Year

Geog. 3410. Map and Aerial Photo Reading and Interpretation	4
Geog. 3415. Field Instruments and Graphic Methods	5
Geog. 3450. Geographic Literature and Research Aids	4
Geog. 3600. Cartographic Principles and Graphic Communication	4

Junior and/or Senior Year

Geog. 3100. Descriptive and Regional Climatology	4
Geog. 3420. Field Observation and Report Writing	5
Two courses in regional geography (3500 series) from different instructors	8

Senior Year

Geog. 4800. Growth of Geographic Thought, and	4
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Four-course systematic emphasis, selecting one of the following groups of courses:

(1) *Physical-Biotic Geography:*

Geog. 4110. Field Course in Physical Geography or Geog. 4210. Field Course in Biotic Geography	5
and three of:	
Geog. 4100. Principles of Geomorphology	
Geog. 4130. Hydrogeography	
Geog. 4305. Domestication of Plants and Animals	
Geog. 4510. Comparative Study of Arid Land Habitats	
Biol. 4130. Biogeography	

	17-18 units
12-13	

(2) *Cultural Geography:*

Geog. 4310. Field Course in Cultural Geography	5
and three of:	
Geog. 3300. Historical Cultural Geography	
Geog. 3320. Agricultural Land Utilization	
Geog. 3330. Urban Geography: The Modern City	
Geog. 3335. Urban Geography: The Preindustrial City	
Geog. 3340. Population, Settlement, and Mobility	
Geog. 4300. Political Geography	
Geog. 4305. Domestication of Plants and Animals	
Geog. 4450. Cultural Ecology	
Geog. 4500. Historical Geography of Anglo-America	
Geog. 4510. Comparative Study of Arid Land Habitats	
Geog. 4610. Geographic Exploration and Discovery	

(3) *Cartographical Geography:*

Geog. 3610. Map Design, Compilation, and Construction	5
and	
Geog. 3620. Statistical and Experimental Cartography	5
and two of:	
Geog. 4425. Aerial Photographic Interpretation	
Geog. 4430. Application of Quantitative Methods in Geography	
Geog. 4610. Geographic Exploration and Discovery	

(4) *Resources Management:*

Geog. 4110. Field Course in Physical Geography	5	17
or		
Geog. 4210. Field Course in Biotic Geography.....		
and three of:		
Geog. 4300. Political Geography.....		
Geog. 4305. Domestication of Plants and Animals.....		
Geog. 4320. Geography of Energy Resources	12	
Geog. 4350. Water Resources and their Management		

(5) *Urban Geography:*

Geog. 4315. Field Course in Urban Geography.....	5	
and three of:		
Geog. 3300. Historical Cultural Geography		
Geog. 3330. Urban Geography: The Modern City		
Geog. 3335. Urban Geography: The Preindustrial City	12	
Geog. 3340. Population, Settlement, and Mobility		
Geog. 4301. Regional Development		
Geog. 4400. Location Theory		

(6) *Individual Emphasis:*

By no later than the last quarter of his junior year a student may present his own proposal for a systematic emphasis (to include 17-18 units of upper division geography courses offered by the Department), as endorsed by at least three geography faculty members, to the departmental committee on undergraduate instruction for approval or disapproval.

III. Courses in supporting fields 0-17 units

Proficiency Requirement in foreign language or statistics or mathematics:

Fulfill *one* of the following three groups of courses, or equivalent:

Foreign Language:

One year of college-level courses in one modern foreign language (1-1, 1-2, 1-3, or 1-4, 1-5, 1-6, or equivalent), or demonstrate reading competence by means of a departmental foreign language examination given once each quarter during either the registration period or the first week of instruction. (0-16)

Statistics:

Stat. 1000. Elements of Probability and Statistics, or equivalent;	
Stat. 3010. Statistical Methods in the Social Sciences;	
Geog. 4430. Application of Quantitative Methods in Geography;	

plus one 4000-level Statistics course (17)

Mathematics:

Math. 1300. Elementary Functions and Coordinate Geometry	
Math. 1304. Calculus I	
Math. 1305. Calculus II	
Math. 2304. Calculus III	(16)

Unit Summary

a. General Education *	76
b. Major: courses in Geography	67-68
courses in supporting fields *	0-17
c. Electives *	34-43

B.A. degree total	186

The Geography Minor*Required Courses:*

- A. Geog. 2100, 2300, 3410 (12 units)
- B. Two regional courses (3500 series) from different instructors (8 units)
- C. Four courses from one of the following groups (16-17 units)
 - 1. Human Geography Option: Geog. 2310, 3300, 3320, 3330, 3340, 4300, 4305, 4360, 4450, 4610
 - 2. Physical-Biotic Resources Option: Geog. 3100, 4100, 4130, 4305, 4320, 4350, 4450

General Education Courses in Geography

Lower-Division: Geog. 1000. Introduction to Geography

Upper-Division: Geog. 3000. Resources and Man

The Master of Arts in Geography

For details about the M.A. degree program in Geography, see the Graduate Catalog.

* Up to 16 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

THE DEPARTMENT OF HISTORY

The History Major Leading to a B.A. Degree

Requirements

I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees.

Recommended courses: A minimum of 4 units in Political Science and 4 units in Economics is strongly recommended as a part of the Social Science requirement in General Education (I.B.3).

Students who complete this major may apply up to 8 units of Foreign Language courses in satisfaction of the Basic Subjects requirement in General Education (I.A.2).

II. Courses in History	52 units
1. Lower Division.....	12 units
These courses must be taken no later than the third quarter after the student has declared a History major at CSUH.	
a. Hist. 1000 (4)	
b. Two courses from: History of Europe, 1011, 1012, 1013 (4 each)	
2. Upper Division.....	40 units
a. Hist. 4030, 4031 (8)	
b. Hist. 4800 series (4)	
c. A minimum of 8 units in each of three of the following fields, preferably chronologically (a) ancient and medieval, (b) modern Europe, (c) Asia, (d) United States, and (e) Latin America. Hist. 3400 may not be counted toward completion of the 40-unit requirement. Units of the Hist. 4800 series and 4900 (beyond the required 4 units) may be counted as part of the requirement in the three fields, but no more than 8 units of the Hist. 4800 series and 4900 (beyond the required 4 units) may be counted toward the major. (24)	
d. Electives in History (4)	
III. Courses in supporting fields	0-24 units

Demonstrate a reading knowledge of one foreign language. The usual method of demonstrating proficiency is by completing two years of college level course work. A satisfactory equivalent of this is the completion of the third quarter of an intermediate foreign language course with a passing grade. A second method is to complete, with a grade of "B" or better, the

third quarter of a language reading course such as French, F.Lan. 1106, German, F.Lan. 1206, Spanish, F.Lan. 1406, or any similar course which may be offered. A third method is to fulfill the foreign language requirement by examination. Regular continuing students at California State University, Hayward, wishing to satisfy their foreign language requirement by examination must do so within two years of declaring their major, and in any case by the end of the first quarter of their junior year. Transfer students must take this examination by the end of their junior year. Students transferring into the History Department in their senior year must complete this requirement by the end of the first quarter (that is, before completion of 150 units). The History Department will offer foreign language examinations once each quarter; see the Departmental Secretary for examination dates.

Unit Summary

a. General Education *	76
b. Major: courses in History	52{
courses in supporting fields *	0-24}
c. Electives *	42-58
B.A. degree total	186 units

Honors in History †

Students may graduate with *Honors in History*. A student who wishes to enter the Honors Program should make application through the Coordinator of the Honors Program, Department of History. A screening committee will review such applications and recommend a program for students accepted.

Prerequisites for acceptance into the Honors Program are: (1) Junior standing, (2) 3.0 grade point average, (3) completion of two courses from the Hist. 1011, 1012, and 1013 series, and (4) completion of four upper-division history courses. Accepted students will be certified for a history major and honors in history upon fulfillment of the following requirements: (1) 3.25 grade point average for all history courses, (2) completion of the departmental foreign language requirement, (3) three courses of Hist. 4900 (12 units), (4) two courses of Hist. 48— (4-8 units), (5) Hist. 4032 (4 units), and (6) Hist. 4031 (4 units). The above history courses must fall within at least three of the five fields offered by the Department. Students may receive high honors by successfully completing an optional oral examination in the last term of the senior year.

* Up to 8 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

† Suspended 1974-5.

Concentrations in American Studies and Asian Studies

In addition to fulfilling requirements for the history major, students may choose to adopt one of the interdisciplinary Concentrations Cal State offers in American Studies or South Asia Studies (described with other interdisciplinary programs in this Catalog). Required courses in the Concentrations may also satisfy major or general education requirements. Inquiries should be directed to the Departmental Office.

The Minor in History

Requirements: 32 quarter units distributed as follows:

Lower Division: (8 units) Hist. 1011, 12, 13 (2 out of 3); or Hist. 1101-2; or Hist. 1108-9

Upper Division: (24 units) A minimum of 8 units in *each of two* of the following fields: (a) ancient and medieval, (b) modern Europe, (c) Asia, (d) United States, (e) Latin America. Units of Hist. 4900 and Hist. 48—may be counted as part of the requirement in the two fields, but no more than 8 units of History 4900 and Hist. 48—may be counted toward the minor. Hist. 3400 may not be counted toward completion of the minor. Hist. 4030 or 4031 is required.

Teacher Credential Candidates

The Ryan Act establishes history as an authorized single subject field. It also establishes competency standards, but the criteria for meeting these standards have not been developed. The History Department has therefore adopted a waiver program under which it will recommend that students who complete our present history major or its equivalent with a G.P.A. of 2.5 or better and adequate courses in those areas of history commonly taught in the public schools be certified as competent to teach in those schools.

ADVANCED PLACEMENT, HISTORY

A history student who has successfully completed the advanced-placement course in U.S. history in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination * will be granted unit credit for Hist. 1101 (4 units) and Hist. 1102 (4 units). If he has completed the advanced-placement course in European history in high school and has earned a score of "3," "4" or "5" on the Advanced Placement Examination,* he will be granted unit credit for Hist. 1011 (4 units) and either Hist. 1012 (4 units) or Hist. 1013 (4 units). No letter grade will be assigned or computed in the student's grade-point average.

Master of Arts in History

For information regarding the requirements for the Master of Arts in History and the Master of Arts in History (Teaching Option), see the Graduate Catalog.

* This is prepared and offered by the College Entrance Examination Board.

THE DEPARTMENT OF MASS COMMUNICATION

PURPOSES

CSUH offers a major in Mass Communication which leads to the Bachelor of Arts degree. The objectives of the curriculum are to provide the student with an understanding of the theories, processes, and effects of mass communication in contemporary society. This study prepares the student for a career in the mass media, for understanding the media as consumer or news source, or for graduate study of mass communication and evaluation of media performance, leading to teaching and research.

Courses are offered in the fundamentals, current practices, and theoretical applications of print and broadcast media, and new technological developments in communication. The program provides an opportunity for the student to emphasize either the development of communication skills, or the study of the roles and responsibility of the communications media and their effectiveness in conveying information to the public.

The Mass Communication Major Leading to a B.A. Degree

Requirements

I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees. Students who complete this major may apply up to 9 units of Foreign Language or Statistics or Mathematics courses in satisfaction of the requirement in Basic Subjects (requirement I.A.2); up to 30 units of appropriate courses selected for the fields of concentration for the major (see below) in satisfaction of the requirements in the Natural Sciences area, Social Sciences area, electives or upper division general education (requirements I.B.2,3; I.C.2 and II); and/or up to 16 units of Foreign Language courses in satisfaction of the requirements in upper division general education (requirement II). The course taken under II.2.c below will satisfy the 3 unit Performing Arts and Activities requirement in General Education (I.C.1).

Typing skill is required for this major.	
II. Courses in Mass Communication	46 units
1. Lower Division	4 units
MCom. 2000. Introduction to Mass Communication	(4)
2. Upper Division	42 units
a. MCom. 3001. Process of Mass Communication I	(5)
MCom. 3002. Process of Mass Communication II	(5)
MCom. 3110. Law of Mass Communication ..(4)	
MCom. 3700. Development of the Mass Media in America	(4)

b. Two courses from the following group:	
MCom. 3120. Language of Cinema	(4)
MCom. 3240. Public Opinion	(4)
MCom. 3520. Advertising and the Public Interest	(4)
MCom. 4050. Theories of Mass Communication.....	(4)
MCom. 4110. International Communication	(4)
MCom. 4230. Research Methods in Mass Communication.....	(4)
c. Two courses from the following group:	8
MCom. 3130. Broadcast News and Documentary Production	(4)
MCom. 3310. Publication Editing	(4)
MCom. 3330. Television Editing	(4)
MCom. 3340. Graphic Communication.....	(4)
MCom. 3410. Feature Writing	(4)
MCom. 4450. Investigative Reporting	(4)
d. Additional elective units within the department may be chosen with the approval of an adviser. The student's program must include at least 46 and no more than 52 units (including acceptable transfer units) within the Department of Mass Communication.	8
Electives	(8-14)
III. Courses in supporting fields.	28-59 units
a. Stat. 1000 or Math. 1700	(4-5)
b. Two years of college-level foreign language or demonstrated reading competence. This requirement can be fulfilled by completing FLan. 2-3 or FLan. 1-6 (with a grade of "C" or better, or a grade of "credit"), or by passing a foreign language examination administered by the Department of Mass Communication.	(0-24)
c. Fields of Concentration:	
The student must select, <i>with departmental approval</i> , a related sequence of three courses in each of <i>two</i> of the following fields:	
a. Public Affairs	
b. Behavioral Sciences	
c. Natural Sciences	
d. Language and Symbolic Systems.....	(24-30)

Unit Summary

a. General Education *	76
b. Major: courses in Mass Communication	46-52
courses in supporting fields.....	28-59
c. Electives	49-65
B.A. degree total	186

The Mass Communication Minor

<i>Required:</i>	<i>Units</i>
MCom. 2000. Introduction to Mass Communication	4
MCom. 3001, 3002. Process of Mass Communication I, II	10
MCom. 3110. Law of Mass Communication.....	4
MCom. 3700. Development of Mass Media in America.....	4
Total required units	22

Select two courses from the following:

MCom. 3240. Public Opinion (4)	
MCom. 3520. Advertising and the Public Interest (4)	
MCom. 3310. Publication Editing (4)	
MCom. 3340. Graphic Communication (4)	
MCom. 4110. International Communication (4)	
MCom. 5200. Mass Media and the Teacher (4)	8
Department electives	2-4
Total	32-34

* Up to 59 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

THE DEPARTMENT OF MUSIC

The Music Major Leading to a B.A. Degree

Requirements

I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees.	
II. Courses in Music.....	84 units
1. Lower Division.....	45 units
Theory	
Mus. 1031, 1032, 1033. Music Theory I, II, III.....	(12)
Mus. 2031, 2032, 2033. Music Theory IV, V, VI	(12)
Performance	
Mus. 3210 through 3270. applied Music (major performance media)*	(6)
Mus. 5500. Music Performance Activities	(6)
Mus. 5506. Chamber Ensemble	(6)
Mus. 2311, 2312, 2313. Intermediate Class Piano or ..	(3)
Mus. 2314, 2315, 2316. (Keyboard Majors only)	
2. Upper Division.....	39 units
Theory, History, and Literature	
Mus. 3031, 3032, 3033, or Mus. 3041, 3042, 3043. Stylistic or Original Composition and Analysis	(12)
Mus. 3155, 3156, 3157. Music Literature and Analysis	(9)
Performance	
Mus. 3210 through 3270. Applied Music (major performance media)	(6)
Mus. 5500. Music Performance Activities	(6)
Mus. 5506. Chamber Ensemble	(6)

Special Requirements of the Department of Music

I. Applied Music

- Each Music Major will declare a principal medium (keyboard, voice, orchestral or band instrument, guitar, composition) with the Department and perform an audition prior to his first quarter registration. The audition will be heard by a committee of no less than three members appointed by the Chairman of the Department. This Committee will evaluate the student's applied music level and will determine probationary conditions, if any, under which a student may be admitted as a music major.
- Probationary Standing. A student who is admitted on probation will be allowed to enroll for one and no more than three quarters of applied instruction. To continue as a music major, the student must re-audition at the completion of this study and satisfactorily remove the conditions of probation.
- Each music major must continuously study in his principal medium until reaching a recital standard of excellence.

* Majors with composition as their applied area will normally begin in the sophomore year acquiring only three units as a lower-division student.

II. Recitals

- Music majors are to appear each year in regularly scheduled student recitals as determined by the department.
- Senior Recital. Thirty minute minimum.
- No recitals may be given during the last week of classes or during the examination period.
- Attendance at recitals and concerts is required of all music majors. Exact number will be announced each quarter.

III.

Each music major is required to be in one major music performance activity and one chamber ensemble each quarter.

IV.

Proficiency tests may be required in any or all aspects of music performance skills and in theory as a basis for determining placement in sequence courses.

V.

An upper-division transfer student who has completed most of his music major may be required to take certain courses in theory, history and literature and performance.

Unit summary

a. General Education	76
b. Major: courses in Music	84
c. Electives	26
B.A. degree total	186

III. Further courses recommended

Study of a foreign language is recommended for non-credential candidates.

Teaching Credential Music Major

The Teaching Credential program for the year 1974-75 is an experimental program which fulfills the requirements of the Ryan Act. Candidates have the option of two programs: 1) the Post-Baccalaureate Single Subject Variant Program and 2) the Undergraduate Variant Program.

Candidates for the Post-Baccalaureate Program must (a) complete the requirements for admission to teacher education (see School of Education section) and (b) complete, in addition to the requirements for the major, the following program:

Lower Division

†Mus. 2331, 2332, 2333, 2341, 2342, 2343, 2351, 2352, 2361. Basic Orchestral Instruments (These courses may be spread throughout the four-year program)	9
Mus. 2321, 2322, 2323. Basic Voice	3

† Students who have had broad secondary school performance background will be able to meet basic performance requirements without taking all of the basic courses. Majors on a particular instrument will not need additional basic course work on that instrument.

Upper Division

Mus. 3370. Basic Conducting	3
Mus. 3380. Choral Conducting or	
Mus. 3390. Instrumental Conducting	3
Mus. 5460. General Music in the Schools	3
	—
	9

Requirements for the Undergraduate Variant Program are presently being developed. Information as to this option may be obtained in the Music Department or the Credentials Office.

Post-Graduate Year

A minimum of nine quarter units of graduate level work in either the major or minor fields must be taken after the granting of the baccalaureate degree. Music courses such as the following are recommended: Mus. 6050, 6140, 6380, 6390, 6015, 6025, 6150, 6155, 6170.

In addition, credential students must take one of the following music education courses: Mus. 5440, 5450.

For complete details of the Teaching Credential fifth year program see the School of Education.

**Recommended Sequence of Music Courses for
Four-year Baccalaureate Program**

Units				
		Fall	Wint.	Spr.
<i>First Year</i>				
Music Theory I, Mus. 1031	4			
* Basic Orchestral Instruments, Mus. 2331, 2341, 2351, or 2361	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
Music Theory II, Mus. 1032	4			
* Basic Orchestral Instruments—String, Mus. 2332	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
Music Theory III, Mus. 1033	4			
* Basic Orchestral Instruments	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
<i>Second Year</i>				
Music Theory IV, Mus. 2031	4			
* Basic Orchestral Instruments	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
Intermediate Class Piano, Mus. 2311 (or 2314, Keyboard Majors only)	1			
† Basic Voice, Mus. 2321	1			
Music Theory V, Mus. 2032	4			
* Basic Orchestral Instruments	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			

* Required only of credential candidates.

† Required only of credential candidates who are not voice emphasis.

Units				
		Fall	Wint.	Spr.
<i>Third Year</i>				
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
Intermediate Class Piano, Mus. 2312 (or 2315, Keyboard Majors only)	1			
† Basic Voice, Mus. 2322	1			
Music Theory VI, Mus. 2033	4			
* Basic Orchestral Instruments	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
Intermediate Class Piano, Mus. 2313 (or 2316, Keyboard Majors only)	1			
† Basic Voice, Mus. 2323	1			
<i>Fourth Year</i>				
Music Theory VII, Mus. 3031 or 3041	4			
* Basic Orchestral Instruments	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
Music Theory VIII, Mus. 3032 or 3042	4			
* Basic Orchestral Instruments	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
Music Theory IX, Mus. 3033 or 3043	4			
* Basic Orchestral Instruments	1			
Applied Music—Major Performance Area, Mus. 3210 to 3270	1			
Performance Activities, Mus. 5500	1			
Chamber Ensemble, Mus. 5506	1			
<i>The Master of Arts Degree in Music</i>				
<i>Objectives of This Curriculum</i>				
To provide an opportunity for advanced study to:				
(1) School and college music teachers who wish to increase their professional effectiveness.				
(2) Students who plan to continue graduate study in institutions that grant doctoral degrees.				
A complete description of the Master of Arts Degree in Music will be found in the Graduate Catalog.				

* Required only of Credential Candidates.

THE DEPARTMENT OF PHILOSOPHY

The Philosophy Major Leading to a B. A. Degree

Requirements

I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees. Students who complete this major may apply up to 8 units of Foreign Language courses in satisfaction of the requirement in Basic Subjects (requirement I.A.2).	
II. Courses in Philosophy	48 units
A. Phil. 1001. Introduction to Logic (4 units)	4
B. Phil. 2100. Ethics (4 units)	4
C. Three courses in the History of Western Philosophy: Phil. 2601, History of Ancient and Medieval Philosophy (4 units); Phil. 2602, History of Modern Philosophy (4 units); and one course selected from—Phil. 3610, Classical Greek Philosophy (4 units); Phil. 3630, Medieval Philosophy (4 units); Phil. 3660, Seventeenth Century Rationalists (4 units); Phil. 3670, Eighteenth Century Empiricism (4 units); Phil. 3680, Nineteenth Century Hegel and Post-Hegelian Thought (4 units); Phil. 3681, Nineteenth Century Utilitarianism, Empiricism and Rationalism (4 units)	12
D. Two courses in Phil. 4911, Senior Seminar in Philosophy (4 units each), or one course in Phil. 4911, Senior Seminar in Philosophy (4 units), and one course in Phil. 4912, Senior Project (4 units)	8
E. One from among the following courses: Phil. 4801, Contemporary American Philosophy (4 units); Phil. 4802, Contemporary British Philosophy (4 units); Phil. 4803, Contemporary Continental Philosophy (4 units)	4
F. One from among the following courses: Phil. 1002, Inductive Logic and Scientific Methods (4 units); Phil. 3000, Modern Logic (4 units); Phil. 3011, Philosophy of Science (4 units); Phil. 3301, Epistemology (4 units)	4
G. Any three other Philosophy courses, at least two of which must be in the upper division	12
III. Courses in supporting fields	0-24 units
Demonstrate a reading knowledge of one foreign language. Proficiency may be demonstrated either by two years of college-level work, or its equivalent, or by examination.	

Unit summary

a. General Education *	76
b. Major: courses in Philosophy	48}
courses in supporting fields *	0-24}
c. Electives *	46-62
 B.A. degree total	 186

Philosophy Minor

A minor in philosophy requires 32-33 units of philosophy courses including the following:

A. One of these courses: Phil. 1001, Phil. 2000, Phil. 2100	4 units
B. Three of these courses: Phil. 2601, Phil. 2602, Phil. 3660, Phil. 3670, Phil. 3680, Phil. 3681	12
C. Any four additional upper division philosophy courses	16
 Total departmental courses	 32

* Up to 8 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

THE DEPARTMENT OF POLITICAL SCIENCE

The Political Science Major Leading to a B.A. Degree

General Statement

CSUH offers a major in political science which leads to the bachelor of arts degree. The objective of this program is to educate to the baccalaureate degree level those students seeking a liberal education with a concentration in political science. The political science curriculum helps the student to acquire an organized body of knowledge about political and social affairs, to obtain an understanding of the relationship of political science to other major areas of study, to develop the ability of critical and coherent thinking, and to be qualified to enter various fields of employment, such as government service, law, teaching and private agencies.

Requirements

I. Complete the 76-unit requirement in general education, required for B.A. and B.S. degrees. Students who complete this major may apply up to 9 units of Foreign Language, Mathematics, or Statistics courses in satisfaction of the requirement in Basic Subjects (requirement I.A.2); up to 12 units of social science courses (see requirement III below) in satisfaction of the area requirement in Social Sciences (I.B.3); up to 15 units of Mathematics or Statistics courses to the area requirement in Natural Science (I.B.2); up to 12 units of Humanities courses (see requirement III below) in satisfaction of the area requirements in Humanities; up to 16 units of Humanities and/or Natural Sciences in satisfaction of Upper Division General Education requirements (III); up to 9 units of Humanities and/or Natural Science courses in satisfaction of General Education electives (C2); to a maximum total of 36 units (see below).

II. Courses in Political Science	48	units
A. Lower Division (16 units)		
1. Pol. Sci. 1201-2. American Political Institutions or approved equivalent	8	
2. Pol. Sci. 2011. Principles of Political Science	4	
3. Pol. Sci. 2012. Elements of Comparative Government	4	
B. Upper Division (32 units)		
1. One course in political theory	4	
2. One course in three of the following four fields	12	
1) American Government and Politics, and Public Administration		
2) Public Law		
3) Comparative Government and Politics		
4) International Relations		
3. Twelve additional units from the above offerings ..	12	
4. Pol. Sci. 4910. Political Science Seminar	4	

III. Courses in supporting fields

A. Twenty quarter units of approved upper-division courses in anthropology, economics, geography, history, mass communication, (choose from MCom. 3700, 3110, and 3240), philosophy, psychology, social science, sociology and statistics selected with the approval of student's adviser

B. The completion of one of the following three communications skills is required. Students should confer with their academic adviser before attempting to meet the requirement; written consent of the adviser is required. These units may be applied toward the fulfillment of General Education requirements. These courses may be taken on credit/no credit basis.

- 1) Foreign Language, a 12-16 unit requirement, to be met by
- a) Successfully challenging any foreign language course numbered 2-1, or 1-6,
- b) Passing a language course numbered 2-1 or 1-6, or
- c) Scoring at or above the mean of a SAT achievement test in the language.
- 2) Mathematics, a 15-unit requirement, to be met by completing Math. 3701 (note its prerequisites). (15)
- 3) Statistics, a 13-15 unit requirement, to be met by completing Stat. 1000 and two additional 4-5 unit courses, such as Stat. 3000, Stat. 3010, or Soc. 2400. (13-15)

Unit Summary

a. General Education *	76	
b. Major: courses in Political Science	48	
courses in supporting fields *	20-36	
c. Electives *	50-62	
B.A. degree total	186	

IV. Honors Program

Students may graduate with Honors in Political Science. A student who wishes to enter the Honors Program should make application through the Chairman of the Department. A screening committee will review such applications and recommend a program for students accepted.

* Up to 36 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

The Minor in Political Science

Requirements: 32 quarter units, of which four must be Political Science 2011, and 28 upper-division quarter units under written approval from a member of the Political Science Department.

American Studies Concentration

A political science major may graduate with a concentration in American Studies. (See *American Studies* under *Interdisciplinary Offerings*.)

The Master of Arts Degree in Political Science

For information on the M.A. in Political Science, see the Graduate Catalog.

THE DEPARTMENT OF PUBLIC ADMINISTRATION

Master of Public Administration

GENERAL INFORMATION

CSUH offers a graduate program leading to the degree Master of Public Administration. The program is designed for graduate students preparing either for professional careers and positions of administrative leadership in public organizations, or for advanced doctoral studies in public administration, and, as well, for men and women in public service seeking to improve their understanding of the political, administrative, and social context of their work.

While contemporary processes, problems, and trends in public administration are an important part of the course of study, the program places primary emphasis upon preparing public administrators for the social needs of a post-industrial society. The curriculum expresses a strong behavioral emphasis in organization theory and behavior, organization development and change, and organization research. The emerging social function of public organizations (particularly as reflected in the role of the public administrator in public policy development, social change, and social problem solving) is stressed in the education of public administrators to meet the future needs of an ever-changing technological, urban society.

For specific information regarding the program, requirements, courses, and faculty, please refer to the Graduate Catalog.

THE DEPARTMENT OF SOCIOLOGY

PURPOSES

CSUH offers a major in sociology which leads to the bachelor of arts degree. The major contains two options: (1) Sociology and (2) Social Services.

The objective of the sociology option is to provide students with a liberal education or preprofessional preparation for those desiring admission to graduate study in sociology.

The primary objective of the social services option is preparation for beginning professional social work practice. Other goals of the option include preparation for graduate study in social work and enlightened citizen participation in social welfare problems of the community.

The Sociology Major Leading to a B.A. Degree

Requirements

- I. Complete the 76-unit requirement in general education required for B.A. and B.S. degrees. Students who complete this major may apply up to 9 units of Foreign Language or Statistics courses in satisfaction of the requirement in Basic Subjects (requirement I.A.2); and up to 12 units of upper-division courses in supporting fields (see requirement III below) in satisfaction of appropriate area or elective requirements in Humanities, Natural Sciences, Social Sciences, or upper-division general education (requirements I.B., I.C.2, and II); and/or up to 16 units of Foreign Language and Statistics courses in satisfaction of the requirement in upper-division general education (requirement II); and/or further Statistics courses in satisfaction of the requirement in Natural Sciences (requirement I.B.2); to a maximum total of 41 units.
- II. Courses in Sociology 42-56 units
 1. Lower Division 4 units
 - Soc. 2000. Introduction to Sociology (4)
 2. Upper Division 39-52 units
 - a. Soc. 3310. Current Sociological Theory (4)
 - b. Soc. 4111. Methods of Sociological Research I (4)
 - c. Soc. 4112. Methods of Sociological Research II (4)
 - d. Elect option (1) Sociology, or option (2) Social Services
 1. Sociology 24 units

At least 24 units from upper-division courses excluding Soc. 4121, 4122, 4123, 4711, 4712, 4713
 2. Social Services 23 units
 - a. Soc. 3700. Introduction to Social Services (4)

- b. Soc. 3710. Social Legislation and Public Policy (4)
- c. Soc. 4121. Field Investigation I (3)
- d. Soc. 4122. Field Investigation II (3)
- e. Soc. 4123. Field Investigation III (3)
- f. Soc. 4711. Practice Theory I (2)
- g. Soc. 4712. Practice Theory II (2)
- h. Soc. 4713. Practice Theory III (2)
- e. Completion of 15 to 16 units from upper-division sociology courses. Up to 12 units of upper-division statistics courses selected under advisement may be counted as sociology electives. Students taking a statistics sequence should substitute Stat. 1000 for Stat. 2120. The statistics sequence must include Stat. 3010. 15-16 units
- III. Courses in supporting fields 21-41 units
 1. Stat. 2120. Elements of Statistics in Sociology (5)
 2. Each student in the sociology major must successfully complete at least 12 units (8 units in one field and 4 units in another field) in upper-division courses approved by the adviser from among several related areas including anthropology, child development, economics, geography, history, mass communication, philosophy, political science, psychology, social science, and ethnic studies (12)
 3. Foreign Language (4-12)

The foreign language requirement may be met in one of the following ways:

 - a. By completing F.L. 1-3 or F.L. 1-6 with a grade of "C" or better or a grade of "credit." (A student may be exempted from one or more of the Foreign Language courses by taking the appropriate placement examination.)
 - b. By taking three sequential quarters or two sequential semesters of a modern foreign language at another accredited college or university with a grade of "C" or better in the last course of the sequence.
 4. See II-e above. (0-12)

Unit Summary

a. General Education *	76
b. Major: courses in Sociology.....	42-56
courses in supporting fields *	21-41
c. Electives *	67-95
B.A. degree total	186

Sociology Minor

A. Lower Division	9 units
Soc. 2000. Introduction to Sociology	(4)
Stat. 2120. Elements of Statistics in Sociology	(5)
B. Upper Division	12 units
Soc. 3310. Current Sociological Theory	(4)
Soc. 4111. Methods of Sociological Research I	(4)
Soc. 4112. Methods of Sociological Research II.....	(4)
C. Select 12 units from any other 3000- or 4000-level sociology course	12 units
Total.....	33 units

The Master of Arts Degree in Sociology

CSUH offers the Master of Arts degree in Sociology. A full description of the Master's program may be found in the Graduate Catalog.

* Up to 41 units of courses may fulfill both a major and G.E. requirement, but units are counted only once toward the 186-unit total for the degree.

THE DEPARTMENT OF SPEECH AND DRAMA

The Drama Major Leading to a B.A. Degree

The baccalaureate major in drama is offered to the student interested in pursuing one or more of the following goals: (1) a broad liberal-arts education; (2) training as a future participant in civic and community theatre work; (3) training to enter the professional theatre; (4) training as a future teacher of theatre arts; (5) preparation for graduate study.

Requirements are as follows:

- I. Complete the 76-unit requirement in General Education.
- II. Depending on the major option chosen, complete a minimum of 22 lower-division units; a minimum of 50 and a maximum of 54 upper-division units.
- III. All majors complete the following courses:

	Units
Drama 1010. Introduction to the Theatre	5
Drama 2010. Pantomime and Movement	4
Drama 2011. Acting I	4
Drama 2111. Fundamentals of Play Production I	3
Drama 2112. Fundamentals of Play Production II.....	3
Drama 3201. Development of Dramatic Art I	3
Drama 3202. Development of Dramatic Art II.....	3
Drama 3203. Development of Dramatic Art III	3
Drama 4021. Play Direction I	4
Drama 4445. Theatre Organization and Management ..	3
Drama 4181, -2, -4, -5, -7. Workshops	10*
Total.....	45

IV. Complete courses required for specific options as follows:

A. Acting-Directing Option

Drama 2310. Interpretative Reading	4
Speech 2485. Voice and Speech Improvement	4
Drama 3012. Acting II	4
Drama 3013. Acting III	4
Drama 3918. Stage Makeup	2
Drama 4022. Play Direction II	4
Plus 10-12 units by advisement	10-12

32-34
77-79

Total Units.....

* These ten units must be distributed as follows: two units in Drama 4182; two units in either Drama 4182 or 4184; and the remaining six units in any one workshop or combination of workshops.

B. Technical Option

Drama 2150. Stagecraft	3
Drama 3150. Stage Lighting	4
Drama 3170. Drafting and Stage Mechanics	3
Drama 3422. History of Costume	4
Drama 3918. Stage Makeup	2
Drama 4400. Dramatic Criticism	4
Drama 4421. Scene and Lighting Design	4
Drama 4422. Costume Design	4
Drama 4424. Scene Painting (1 year)	1-1-1
	31
Total Units	76

C. General Option

Drama 2150. Stagecraft	3
Drama 2310. Interpretative Reading	4
Speech 2485. Voice and Speech Improvement	4
Drama 3150. Stage Lighting	4
Plus 20 units by advisement	20
	—
Total Units	80

The Drama Minor

The student will enroll in a program of at least 30 units, 18 of which must be in the upper division to be selected in consultation with a Drama adviser.

I. Required Courses*Lower Division*

Drama 1010. Introduction to the Theatre.....	5
Drama 2111. Fundamentals of Play Production I..... or	3
Drama 2112. Fundamentals of Play Production II	3
Drama 2310. Interpretative Reading	4
	—
12	

Upper Division

History, Theory, Literature

3 units from the following:

Drama 3201. Development of Dramatic Art I.....	3
Drama 3202. Development of Dramatic Art II	3
Drama 3203. Development of Dramatic Art III	3
Drama 3207. Modern American Theatre	3
Drama 4050. Trends in Modern Theatre	3
	—
3	

Performance, Production, Technical Design, Workshops

4 units from the following:	
Drama 4181. Drama Workshop—Acting	2
Drama 4182. Drama Workshop—Technical	2
Drama 4184. Drama Workshop—Costuming	2
Drama 4185. Drama Workshop—Children's Theatre.....	1-2
Drama 4187. Laboratory Theatre Workshop	1-2
	—
11 units By advisement	11
	—
Total Required Units	30

The Speech Major Leading to a B.A. Degree

The baccalaureate major in speech is offered to the student interested in pursuing one or more of the following goals: (1) a liberal education; (2) experience, knowledge and training in areas important to concerns in business and industry, in law, in the ministry; (3) the teacher credential in secondary and elementary education; (4) preparation for graduate study.

Requirements are as follows:

- I. Complete the 76-unit requirement in General Education.
- II. Depending on the courses chosen, complete a minimum of 21 lower-division units; a minimum of 44 and a maximum of 54 upper-division units.

III. Required courses:*Lower Division*

Speech 1000. Rhetoric and Public Address (4)
Speech 1004. Interpersonal Communication (4)
Drama 2310. Interpretative Reading (4)
*Speech 2411. Argumentation and Debate (5)
Speech 2485. Voice and Speech Improvement (4)

Upper Division

Speech 3510. Public and Group Discussion (5)
*Speech 3515. Persuasion (4)
*Speech 4201. History of Rhetorical Theory and Practice I (4)
Speech 4860. Symposium in Speech (4)

and one of the following courses:

*Speech 4500. Rhetorical Criticism (5)
Speech 4600. Modern Rhetorical Theory (4)
Speech 4810. Communication Theory (4)

IV. Elective Courses (22-32 units from the following courses):

Speech 1005. Parliamentary Procedure (3)
Speech 1007. Fundamentals of Speech (3)

* Not required for Elementary Credential Program. See V, below.

Speech 2210. Mass Media of Communication (4)
 Speech 2215. Introduction to Radio and Television (4)
 Speech 3412. Business and Professional Speech (4)
 Speech 4183. Forensics Workshop (1-3)
 Speech 4202. History of Rhetorical Theory and Practice II (4)
 Speech 4203. History of Rhetorical Theory and Practice III (4)
 Speech 4210. Modern American Public Address (4)
 Drama 4310. Advanced Interpretative Reading (4)
 Speech 4350. Advanced Public Speaking (4)
 Speech 4355. Teaching Speech and Drama (4)
 Speech 4450. Contemporary Public Address (4)
 Speech 4500. Rhetorical Criticism (5)
 Speech 4725. Contemporary Issues in Speech (4)
 Speech 4800. General Semantics (4)
 Speech 4810. Communication Theory (4)

V. Illustrative Program for Speech Major:

First Year

	Units
Speech 1000. Rhetoric and Public Address	4
Speech 1004. Interpersonal Communication	4
Drama 2310. Interpretative Reading	4

Second Year

Speech 2215. Introduction to Radio and Television	4
Speech 2411. Argumentation and Debate	5
Speech 2485. Voice and Speech Improvement	4

Third Year

Speech 2515. Persuasion	4
Speech 4183. Speech Workshop (Forensics)	2
Speech 4450. Contemporary Public Address	2
Speech 4810. Communication Theory	4

Fourth Year

Speech 3510. Public and Group Discussion	5
Speech 4201,-2,-3. History of Rhetoric I, II, III	4
Speech 4860. Symposium in Speech	4
Speech 4500. Rhetorical Criticism	5

Other courses the student should consider for this program:

Speech 4210. Modern American Public Address
 Speech 4350. Advanced Public Speaking
 Speech 4600. Modern Rhetorical Theory
 Speech 4800. General Semantics

VI. Speech Emphasis, Liberal Studies Major, Multiple Subject Credential Option (29-30 units)

	Units
Area I,B	
Speech 1000	4
Area I,C	
Speech 3510	5
Area V,A	
Speech 1004	4
Speech 2310	4
Speech 3515	4
Speech 4201 or 4500 or 4600	4-5

The Master of Arts in Speech

A program of study leading to the M.A. in Speech, Rhetoric and Public Address, is available. For further details, see the Graduate Catalog or inquire at the departmental office.

**The Speech Pathology and Audiology Major
Leading to a B.S. Degree**

The Bachelor of Science degree program in Speech Pathology and Audiology provides students with a background in theoretical and clinical areas fundamental to the understanding and management of communicative disorders and serves as the preprofessional training necessary for admission to graduate studies.

Requirements are as follows:

- I. Complete the 76-unit requirement in General Education
- II. Depending on the courses chosen, complete a minimum of 12 lower-division units; a minimum of 68 and a maximum of 74 upper-division units.
- III. Complete the following requirements in the major:

A. Required Courses:

1. Lower Division

Speech 1007. Fundamentals of Speech (3)
 Psych. 2000. General Psychology I (5)
 Psych. 2010. General Psychology II (4)

2. Upper Division

Speech 3852. Introduction to Speech and Language Disorders (4)
 Speech 3853. Process of Oral Communication (4)
 Speech 3854. Introduction to Speech Science (4)
 Speech 3855. Phonetics (3)
 Speech 3857. Organic Disorders of Speech (4)
 Speech 3859. Introduction to Audiology (4)
 Speech 4800. General Semantics (4)
 Speech 4810. Communication Theory (4)

Speech 4853. Vocal Rehabilitation (4)
 Speech 4854. Diagnosis of Speech and Language Disorders (4)
 Speech 4855. Aural Rehabilitation (4)
 Speech 4856. Clinical Practicum in Speech Pathology and Audiology (1-5)
 Speech 4859. Seminar in Speech Pathology and Audiology (4)

B. Elective Courses:

Each student enrolled in this major must complete 20-22 units of upper division courses in the Department of Child Development or in the Department of Psychology. A combination of courses in Child Development and Psychology may also be acceptable so long as 20-22 units are successfully completed. Students are responsible for meeting the prerequisites of courses in Child Development and Psychology. Lists of acceptable courses are in the Speech Pathology and Audiology office. All elective courses accepted for the completion of requirements in the major, however, must be specifically approved by the student's adviser.

The Speech Minor

Enroll in a program of at least 32 units in Speech, of which at least 19 must be in the upper division, to be selected in consultation with a minor adviser.

The following courses are required for the Speech Minor:

Speech 1000. Rhetoric and Public Address (4)
 Drama 2310. Interpretative Reading (4)
 Speech 2411. Argumentation and Debate (5)
 Speech 3510. Public and Group Discussion (5)

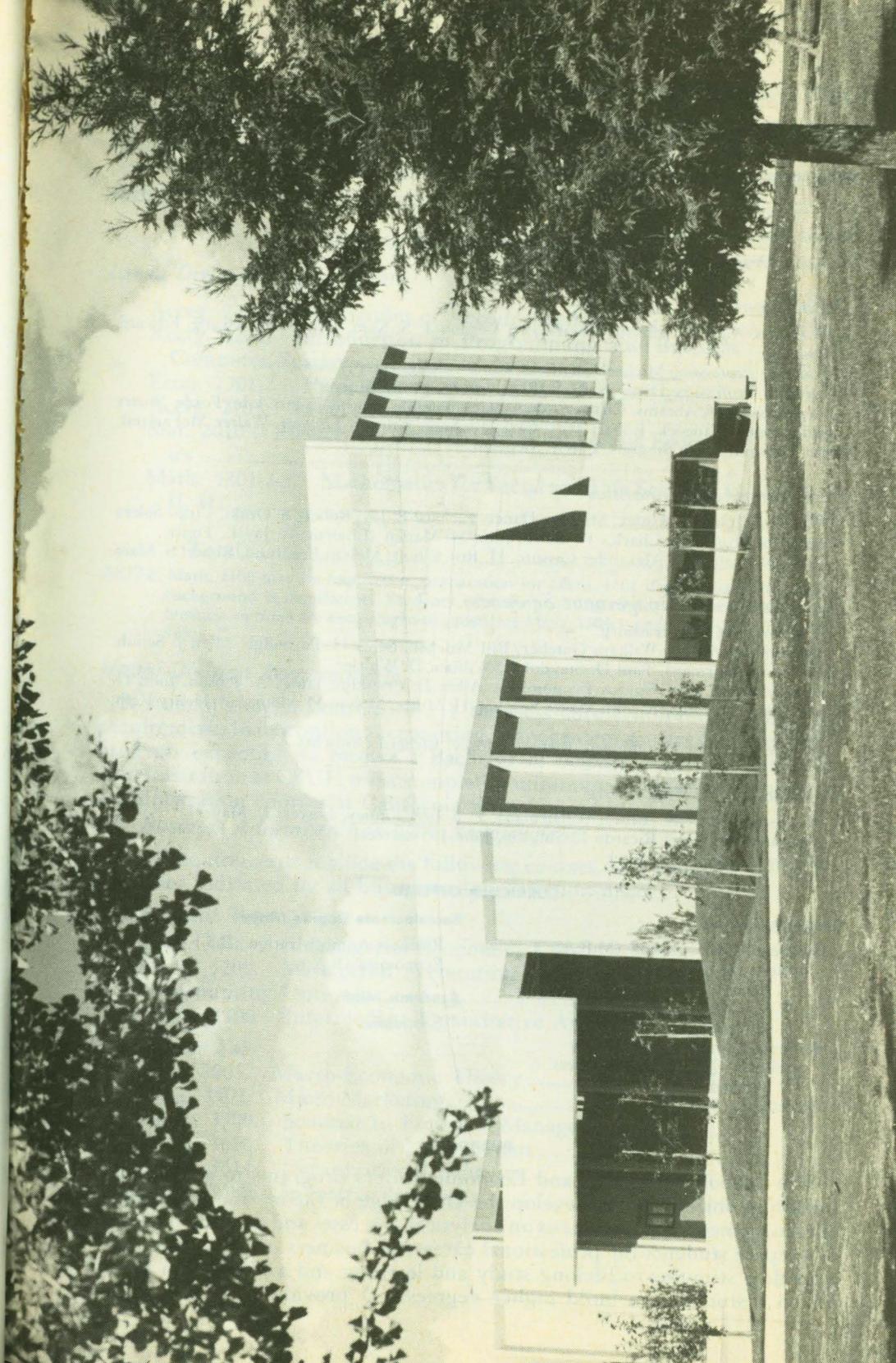
The Speech Pathology and Audiology Minor

I. Required Courses:

	Units
Speech 3852. Introduction to Speech and Language Disorders	4
Speech 3855. Phonetics	3
Speech 3859. Introduction to Audiology	4
Total Required.....	11

II. Electives:

Speech 1004. Interpersonal Communication	4
Speech 3854. Introduction to Speech Science	4
Speech 4800. General Semantics.....	4
Speech 4810. Communication Theory.....	4
Speech 4854. Diagnosis of Speech and Language Disorders	4
Speech 4855. Aural Rehabilitation	4
Total Required.....	20
Total.....	31



SCHOOL OF BUSINESS AND ECONOMICS

Departments: Accounting, Economics, Management Sciences, Marketing

School Dean: Jay L. Tontz

Associate Dean (acting): Allen D. Franklin

Department of Accounting

Professors: Alan P. Johnson (Chairman), Vernon T. S. Kam, Ching-wen Kwang, Edward T. Ossman

Associate Professors: Michael Chatfield, Carol Inberg, Gary Yamashita

Assistant Professors: Denis Neilson, Ray Roberts, Philip Storror

Lecturers: James Abrams, Charles Adams, Jack Benoun, Dennis Flynn, John Forde, Stuart Gould, Sidney Hancock, Robert Hill, Carl Hitchner, Gordon Louvau, Walter McFarland, James Newton, Sarah Staubus, Calvin Swinson

Department of Economics

Professors: John W. Ashley, Maurice Dance, Richard E. Jay, Robert S. Ozaki, Virgil Salera

Associate Professors: Charles W. Baird, John M. Martin (Chairman), Jay L. Tontz

Assistant Professors: Alexander Cassuto, H. Roy Elliott, Melvin Fredlund, Robert S. Main

Department of Management Sciences

Professor: L. Glen Strasburg

Associate Professors: William Gotcher, Bill Mitchell, Scott H. Partridge, Allen J. Schuh, John Sims (Chairman), Paul D. Staudohar, William D. Whisler

Assistant Professors: Spyros Economides, Allen D. Franklin, James A. Jepson, John G. Kilgour, Arnold Langsen, John Major, Stephen H. Miller, Melvin M. Moorman, Henry Rath, Susan D. Schaefer

Lecturers: Arthur Hutchinson, Richard Morey, Richard Obrochta

Department of Marketing

Professors: Harry E. Allison (Chairman), F. Robert Finney, Forrest L. Mayer

Assistant Professors: Ricardo L. Singson, John J. Villarreal

Lecturer: Gerald H. Stoner

CURRICULA OFFERED

Graduate Degrees

Business Administration (M.B.A.)

options in:

Accounting
Management Sciences
Marketing

Business Administration (M.S.)
option in Quantitative Business
Methods

Economics (M.A.)

Baccalaureate Degree Majors

Business Administration (B.S.)
Economics (B.A.)

Academic Minor

Economics

PURPOSES

The School of Business and Economics offers programs to achieve the following objectives: (1) develop the knowledge of theory and techniques of management, with emphasis on analytical processes and decision making, to prepare students for professional careers in business or economics; (2) provide a stimulus to lifelong study and learning and a foundation upon which a student can build higher degrees; (3) provide an environment

conducive to improved teaching performance, research, and continued professional development on the part of the Faculty; (4) develop close, effective relations with, and provide appropriate services to, business and the communities in our region.

Business Administration Major

Lower-Division Requirements

	Units
Acctg. 2251-2. Principles of Accounting I-II	4-4
Acctg. 2270. Introduction to Programming and Business Computer Systems	4
Econ. 2301-2. Principles of Economics I-II	4-4
Acctg. 2701. Legal Environment of Business	4
Stat. 2010. Elements of Statistics for Business and Economics	5
Math. 1801-2-3. Mathematics for Social and Life Sciences I, II, III	4-4-4
Total.....	41

NOTE: Math. 1100 may be required as preparation for Math. 1801 if previous mathematics background is insufficient. Students who are planning to pursue more quantitative business options are encouraged to substitute Math. 1304-5, and Math. 2304 for Math. 1801, -2, -3.

Upper-Division Requirements

A student's major consists of (1) business core requirements and (2) requirements in one option (accounting, management sciences, marketing). Students expecting to receive a Bachelor of Science degree in Business Administration at CSUH must complete a minimum of 24 units of Business Administration courses at California State University, Hayward.

(1) Business Administration Core Requirements

Core requirements include the following courses, and should be taken in the order indicated by all business administration majors:

	Units
Early Junior Year	
Econ. 3551-2. Managerial Economics I, II	4-4
Acctg. 3200. Managerial Accounting (not required in the Accounting Option)	4
Mgmt. 3100. Intermediate Quantitative Analysis	5
Late Junior Year	
Econ. 3005. Macro-Economic Theory	4
Mktg. 3401. Micro-Marketing	4
Mgmt. 3300. Seminar in Financial Management	4
Mgmt. 3600. Theories of Management	4
Mgmt. 3614. Organizational Behavior	4
Mgmt. 3680. Industrial Relations	4

Senior Year	
Mgmt. 4500. Business, Government and Society	4
Mgmt. 4650. Seminar in Managerial Planning and Control	4
Mgmt. 4670. Multinational Business (not required in Accounting option)	4
Total Business Core Requirements.....	53 *

(2) Option Requirements

Accounting	
Acctg. 3211-12-13. Intermediate Accounting I, II, III	4-4-4
Acctg. 3231-32. Cost Accounting I, II	4-4
Acctg. 4233. Advanced Cost Accounting	
Acctg. 4240. Advanced Financial Accounting	4
Acctg. 4270. Accounting Information Systems	
Total.....	24

NOTE: Acctg. 3220. Federal Income Tax Accounting, and Acctg. 4250. Auditing, are recommended under the Accounting option.

Management Sciences (Choose one option.)

(a) Production and Operations Management	
Mgmt. 3620. Introduction to Production Operations	4
Mgmt. 3640. Production Systems	4
Mgmt. 3645. Logistics Management	
Acctg. 4271. Management of Information Systems	
Mgmt. 4600. Technological Innovation and Research Management	4
Mgmt. 4620. Theory of Production Systems	4
Any 3000 or 4000 level Mgmt. course	
Total.....	16

(b) Industrial Relations and Personnel Administration	
Mgmt. 3610. Personnel Administration	4
Mgmt. 3616. Personnel Evaluation and Testing	4
Mgmt. 3620. Introduction to Production Operations	
Mgmt. 4600. Technological Innovation and Research Management	
Mgmt. 4613. Research Methods in Personnel Administration	4
Mgmt. 4683. Research in Labor Relations	
Acctg. 4271. Management of Information Systems	
Any 3000 or 4000 level Mgmt. course	
Total.....	16

(c) Financial Management	
Mgmt. 4320. Problems in Corporate Finance	4
Mgmt. 4370. Senior Studies in Financial Theory.....	4

* 45 units required for Accounting option.

Econ. 3310. Money and Banking	4
Mgmt. 3320. Capital Markets and Financial Institutions	
Mgmt. 4310. Seminar in Investment Analysis	
Total.....	16

Marketing

Mktg. 4410. Advertising	4
Mktg. 4420. Sales Analysis & Sales Management	
Mktg. 4430. Problems & Policies of Middlemen	
Mktg. 4440. Quantitative Methods in Marketing	
Mktg. 4460. Man and Exchange	
Mktg. 4470. International Marketing	
Mktg. 4480. Business Decisionmaking in Simulated Environments	
Total.....	12

Illustrative Program, Business Administration

(Accounting, Management Sciences, Marketing)

Note: These illustrative programs assure that prerequisite courses are taken in proper sequence. If deviations from this program are made, see individual course descriptions to assure that prerequisites are met.

First Quarter	Second Quarter	Third Quarter	
Freshman Year			
Math. 1801*	4	Math. 1803*	4
Engl. 1001**	3	Humanities area requirement	4
Hist. 1101**	4	Performing Arts area requirement	3
	11	General Education elective	4
			16
Sophomore Year			
Acctg. 2251	4	Acctg. 2270	4
Stat. 2010*	5	Econ. 2302*	4
Acctg. 2701	4	Psych. 2000*	5
Free elective	3	Free elective	3
	16		16
Accounting Option			
Junior Year			
Acctg. 3211	4	Acctg. 3212	4
Econ. 3551	4	Econ. 3552	4
Mgmt. 3600	4	Mgmt. 3614	4
Mgmt. 3100	5	Mktg. 3401	4
	17		16

* Required general education course.

** Recommended general education course for all Business Administration options.

Senior Year

Acctg. 3232	4	Mgmt. 3300	4	Acctg. 4233	4
Mgmt. 3680	4	Mgmt. 4500	4	Acctg. 4240	4
Acctg. 3220†	4	Spch. 3412**	4	Acctg. 4270	4
Upper division		Acct. 4250†	4	Mgmt. 4650	4
General Education elective	4			Upper division	
				General Education elective	4
Junior division	16			Free elective†	3
					15

Management Sciences Options

Production and Operations Management
Industrial Relations and Personnel Administration
Financial Management

Junior Year

Acctg. 3200	4	Econ. 3552	4	Econ. 3005	4
Econ. 3551	4	Mgmt. 3614	4	Mgmt. 3680	4
Mgmt. 3100	5	Mktg. 3401	4	Mgmt. 3300	4
Mgmt. 3600	4	Engl. 3003**	4	Option course	4
	17		16		16

Senior Year

Mgmt. 4500	4	Mgmt. 4670	4	Mgmt. 4650	4
Option course	4	Option course	4	Option course	4
Upper division		Upper division		Upper division	
General Education elective	4	General Education elective	4	General Education elective	4
Spch. 3412**	4	Free elective	4	Free elective†	3
	16		16		15

Marketing Option

Acctg. 3200	4	Econ. 3552	4	Econ. 3005	4
Econ. 3551	4	Mgmt. 3614	4	Mgmt. 3100	5
Mgmt. 3600	4	Mktg. 3401	4	Mgmt. 3680	4
Upper division		Engl. 3003**	4	Option course	4
General Education elective	4		16		17
	16				

Senior Year

Mgmt. 3300	4	Mgmt. 4500	4	Mgmt. 4650	4
Mgmt. 4670	4	Option course	4	Mktg. elective	4
Option course	4	Upper division		Free elective†	4
Spch. 3412**	4	General Education elective	4	Free elective†	4
	16	Free elective	4		16

Master's Degrees in Business Administration

The School offers a Master of Business Administration Degree with options in Accounting, Management Sciences and Marketing, and a Master of Science Degree in Business Administration with an option in Quantitative Business Methods. For details see the Graduate Catalog or inquire at the School of Business and Economics, Office of Graduate Programs.

** Recommended general education course for all Business Administration options.

† Recommended elective courses in the accounting major.

‡ If a student already has the 186 units required for graduation, these courses may be used to begin a graduate program (see page 89 of this catalog).

Secondary Level Teaching Program

Students interested in secondary teaching should recognize that this School no longer offers either an undergraduate or credential program in Business Education. Furthermore, although students can complete the undergraduate Business Administration major on this campus and then enroll in the fifth year credential program elsewhere, this School does not offer all of the coursework considered prerequisite to some credential programs.

Junior College Teaching Program

The requirements for a junior college teaching certificate may be met concurrently with the satisfaction of the requirements for the Master of Business Administration degree.

Economics Major

The Department's purposes are to acquaint students with the economic aspects of modern society, to familiarize them with techniques for the analysis of contemporary economic problems, and to develop in them an ability to exercise judgment in evaluating public policy issues. There is training for the general student as well as for those who plan careers as economists in civil service, non-profit institutions, private enterprise, teaching, or research.

Lower-Division Requirements

Students are expected to complete these or equivalent courses by the end of their sophomore year:

Econ. 2301-2. Principles of Economics I-II	4
* Math. 1300, 1304, 1305. Elementary Functions and Coordinate Geometry, Calculus I, II, or Math 1801,-2,-3. Mathematics for Social and Life Sciences I, II, III	4
Stat. 2010. Elements of Statistics for Business and Economics	4
** One approved course in accounting	4
Total.....	29

Upper-Division Requirements

(A) Complete the following 20-21 units during the junior year:

Econ. 3001-2. Micro-Economic Theory I-II	4
Econ. 3005. Macro-Economic Theory	4
Econ. 3310. Money and Banking	4
Mgmt. 3100. Introduction to Quantitative Methods in Business	4
Stat. 3010. Statistical Methods in the Social Sciences	4

Choice
of one

4-5

* Students contemplating attending graduate school should complete Math. 2101, 2304; a course in linear and/or matrix algebra (such as Math. 3100 and 3121); and have a reading knowledge of a modern foreign language.

** Students who intend to take further elective work in accounting should take Acct. 2251. Students intending to take one course only should take Acct. 2210.

(B) Complete the following 3 units during the senior year:	
Econ. 4895. Workshop in Economic Research (must be taken three times)	1-1-1
Total.....	<u>23-24</u>
(C) Complete 20 additional units in economics to include:	
(1) No less than <i>two</i> (2) courses from among the following:	
Econ. 3200. Comparative Economic Systems Econ. 3370. Public Finance Econ. 3680. Labor Economics Econ. 4100. International Economics Econ. 4520. Industrial Organization and Public Policy	Choice of two 4-4
(2) At least one (1) senior seminar in economics, chosen from among the following:	
Econ. 4011. Senior Seminar in Early Economic Thought Econ. 4012. Senior Seminar in Economic Thought Econ. 4315. Senior Seminar in Monetary Theory Econ. 4370. Senior Seminar in Public Finance Econ. 4590. Senior Seminar in Economic Analysis	Choice of one 4
(3) Free electives in economics: two (2) courses	4-4
Total	<u>20</u>

Students expecting to receive the B.A. in economics from the University
must complete at least 20 units of economics here.

Economics Minor

Lower-Division Requirements

Students are expected to complete these or equivalent courses by the end
of their sophomore year:

	Units
Econ. 2301-2. Principles of Economics I-II	4-4
Math. 1300, 1304, 1305. Elementary Functions and Coor- dinate Geometry, Calculus I, II, or Math. 1801,-2,-3. Math- ematics for Social and Life Sciences I, II, III.....	4-4-4
Total.....	<u>20</u>

Upper-Division Requirements

(A) Complete the following 16 units:	Units
Econ. 3001-2. Micro-Economic Theory I-II	4-4
Econ. 3005. Macro-Economic Theory	4
Econ. 3310. Money and Banking.....	4
Total.....	<u>16</u>

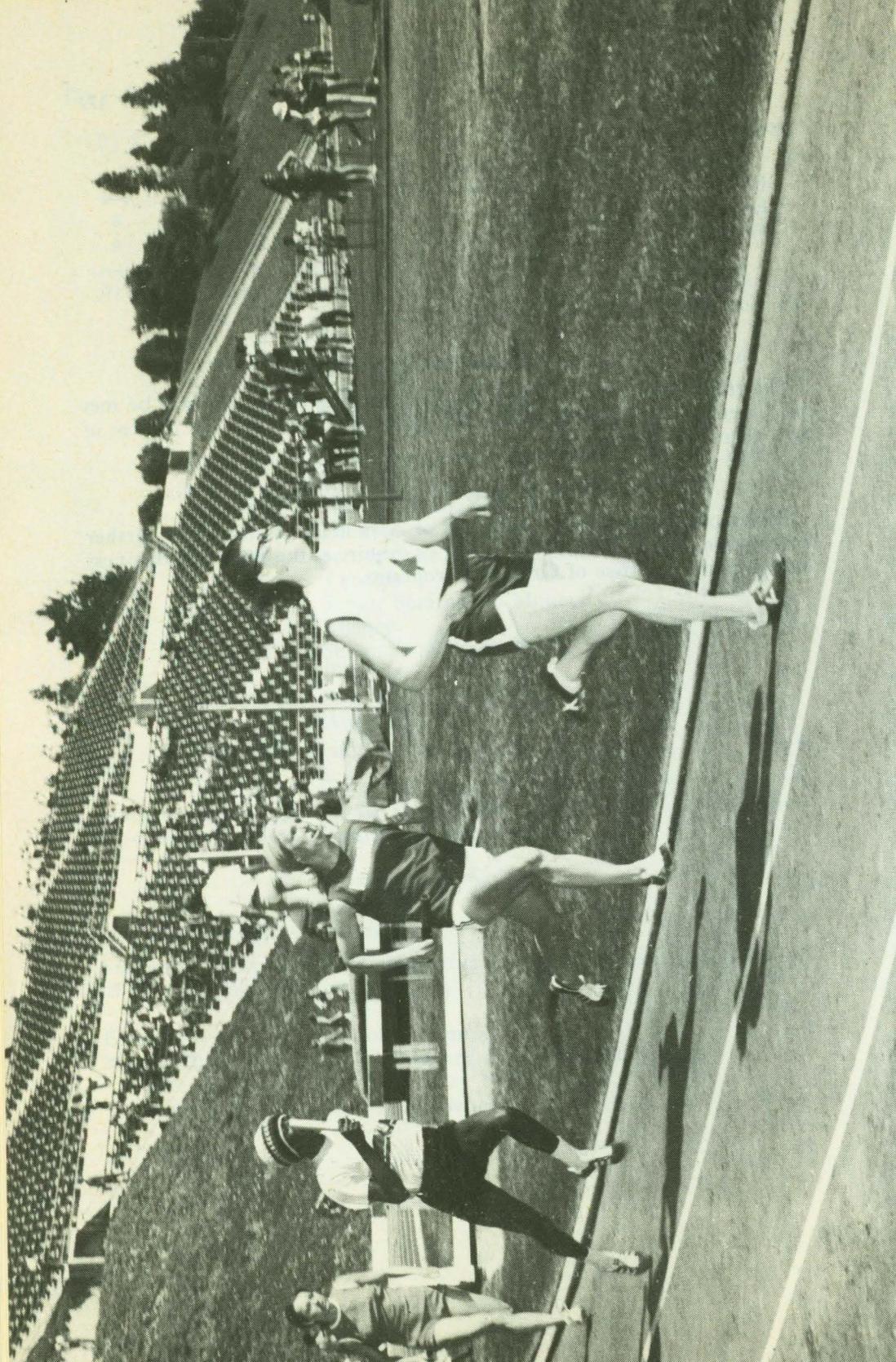
(B) Complete 8 additional units in economics.

Junior College Teaching Program

The requirements for a junior college teaching certificate may be met
concurrently with the satisfaction of the requirements for the Master of
Arts degree in Economics.

The Master of Arts Degree in Economics

CSUH offers the degree of Master of Arts in Economics. For further
information, see the Graduate Catalog or inquire at the School of Business
and Economics, Office of Graduate Programs.



SCHOOL OF EDUCATION

Departments: Educational Psychology, Kinesiology and Physical Education, Recreation, Teacher Education, and School Administration and Supervision

School Dean: Lewie W. Burnett

Associate Dean: Herbert M. Graw

Department of Educational Psychology

Professors: Donald J. Brown, John A. Guthrie (Chairman), Leslie H. Mitchell, Thomas A. Soldahl, Douglas G. Sprague, Robert M. White

Associate Professors: Theodore G. Alper, Steven E. Crapo, Dorlesa B. Ewing, David H. Frey, Frank Groves, Frederick E. Heslet, Alvin H. Jones, Jr., Donald P. McKillop, Viola B. Mecke, Harry M. Overline, Beatrice O. Pressley, Violet E. Spraings, Thomas E. Whalen

Assistant Professors: Tom G. Anderson, Ernest L. Boswell, Jeremiah M. Horgan, Phyllis Kaplan, Annie L. Redmon, Derrald W. Sue

Lecturers: Z. A. Aarons, Ferne Anderson, Jewel Baker, Richard Bancroft, Catherine Cowling, Gerald Davenport, Harold Dent, C. R. Dunbar, Marguerite Dugger, Eileen Elliott, M. D. Fisher, J. A. Gerard, M. S. Greeley, Clarence Jackson, Stephen Johnson, Lonnie Jones, Roy Masterson, Henry Phillips, C. P. Ruch, Madalienne Schmidt, Keith Schroeder, Steve Sperber, Anne TeSelle, Harvey Wall, Robert C. Williams

Department of Kinesiology and Physical Education

Professors: Herbert H. Graw, Joel E. Grose (Chairman), Carl J. Lutt, Margery M. Martin, Alfred R. Mathews, Jr., Richard S. Rivenes, Jonathan L. Staggers, Sr., William G. Vandenburg

Associate Professors: Malachi Andrews, Phyllis J. Brock, Calvin S. Caplan, Gay E. Cheney, Marie Hart, Don R. Hudson, John Z. Ostarecko, Jr., Robert Rodrigo, James M. Santos

Assistant Professors: Wanda L. Aitch, J. Ann Carr, Leonard Chaplin, Donald A. Chu, Stanley J. Clark, Dorie Krepton, Thomas R. Meekins, Arlene H. Smith, Timothy Tierney, William F. Van Gundy, F. Douglas Weiss, Adele R. Wenig, Robert W. Zambetti

Department of Recreation

Associate Professor: John A. Montgomery (Chairman)

Assistant Professors: Robert A. Frembling, Joyce G. Thorson

Lecturers: Stuart C. McCormick, Ann M. Springer, S. E. Sunderland

Department of School Administration and Supervision

Professor Emeritus: Arnold E. Joyal

Professors: Lewie W. Burnett, Jack Marsh, Walter J. McHugh, Jon S. Peters (Chairman), Vera Pitts, William C. Shriner

Associate Professors: Pauline Brown, Wade N. Patterson

Assistant Professor: George Perazzo

Lecturers: Edward Cockrum, Richard Foster, Sam Kermoian, Roger J. Schulte, David F. Shapiro

Department of Teacher Education*Professor Emeritus:* Edward G. Olsen*Professors:* E. H. Belgum, Gerald W. Brown, Ruth K. Carlson, Gordon F. Davies, Delmo Della-Dora (Chairman), Dale Hendrickson, Tudor M. Jones, William E. Jones, Albert R. Lepore, Claire Pederson, Esther P. Railton, Mildred R. Sabath, James E. Spencer, John M. Stevens, Charles W. Worland, Herman V. Yeager, Harry Zeitlin*Associate Professors:* Robert M. Bonnin, Jane A. Hebler, Margaret A. James, Helen C. Meyer, Greta Morine, Victoria C. Mui, Marilyn L. Nye, Morton S. Tennenberg, Eugene D. Whitehorn*Assistant Professors:* Ellsworth A. Berget, Alvin E. Howe, Richard L. Kimball, Janet D. McCowin, Frank J. Morales, Rita W. Peterson, James L. Shanker*Lecturers:* Wesley Blackmore, B. L. Cobb, Paul V. Collins, Patricia Hardy, Nasira Khan, Harline A. Kruger, Nathaniel S. Pearson, Jr., Georgia M. Sarvis, Eva F. Travers, Toby M. Wiebe**CURRICULA OFFERED *****Graduate Degrees****Master of Science in Counseling**

Areas of Specialization: School Counseling, School Psychology, Clinical Counseling

Master of Science in Education

Areas of Specialization:

Early Childhood Education
 School Administration
 and Supervision
 Reading Instruction
 Special Education

Curriculum: Areas of emphasis in curriculum currently include children's literature, environmental education, mathematics education

Master of Science in Physical Education**Baccalaureate Degree Majors**

Physical Education (B.S.)
 Option in Physical Education
 Option in Dance
 Recreation (B.S.)

Academic Minor

Dance

PURPOSES

The School of Education offers programs for the professional education of teachers and service personnel in schools, colleges, and community agencies; and for liberal arts instruction and professional preparation of undergraduates in the fields of kinesiology and physical education and recreation.

* Descriptions of programs in this school are given by department.

Advanced preparation and graduate degrees are designed to deepen knowledge, upgrade professional skills, and prepare for doctoral study. The professional programs of the School are accredited by the National Council for Accreditation of Teacher Education.

CREDENTIAL PROGRAMS

Programs to prepare teachers, counselors, school psychologists, special educators, and supervisors and administrators have either been approved or are pending approval by the State Commission on Teacher Preparation and Licensing (Ryan Commission). Information regarding specific requirements for each credential is available through the appropriate department.

1. Basic Teaching Credential Programs
 - a. Multiple Subjects
 - b. Single Subject, which enables the credential holder to teach one (or more) of the following in grades 12 and below:

(1) Art	(7) Mathematics
(2) English	(8) Music
(3) Foreign Languages	(9) Physical Education
(4) Government	(10) Physical Science
(5) History	(11) Social Sciences
(6) Life Science	
2. Specialist Teaching Credential programs (pending approval). These are to be obtained concurrent with or (more often) after obtaining a basic credential.
 - a. Bilingual/Cross-Cultural Education
 - b. Early Childhood Education
 - c. Reading Instruction
 - d. Special Education. Areas of emphasis: Teaching of gifted, severely handicapped and learning handicapped.
3. Services Credentials programs (pending approval):
 - a. Administrative Services
 - b. Pupil Personnel Services
 - (1) School Counselor
 - (2) School Psychologist
4. Community College Credentials
 - a. Community College Instructor Credential
 - b. Community College Counselors Credential
 - c. Community College Student Personnel Workers Credential

At the present time all community college credentials are issued on direct application to the Credentials Division, Community College Board of Governors, Sacramento.

THE DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

The Department of Educational Psychology offers a series of program options in professional specialties related to pupil personnel work in the schools, and for work in various social agencies, in employment service offices and in other governmental agencies which emphasize service to children and adults. Courses of study are available which are specifically designed for persons desiring to work in the schools and who need to meet the requirements for the Designated Services Credential with a Specialization in Pupil Personnel Services. In credential programs students may follow concentrations to prepare for work in the areas of counseling and school psychology. Other sequences are tailored to prepare persons for working as a counselor or psychologist in non-school settings where assistance with problems relating to vocational, marital, social, or personal adjustment is provided. A sequence for developing research competency in these areas and in the field of educational research can also be pursued. Special training for working with exceptional children may also be taken as an option.

The department offers the degree of Master of Science in Counseling. It may be pursued in conjunction with, or independently of, a pupil personnel credential program. Students may specialize in school counseling and school psychology. A third option designated as clinical is also available. This option is a degree program for counselors and psychologists interested in clinical practice. The area of specialization will be worked out with an adviser to reflect the goals of the student, whether these be in counseling, school psychology, or other related areas.

The department also offers a Master of Science Degree in Education, with an option in Special Education, and the following options in the Special Education Credentials: Learning Handicapped, Severely Handicapped and Gifted. The focus of this program is on the diagnosis and remediation of learning difficulties associated with mental retardation and with handicaps of a neurological or emotional adjustment nature.

Persons earning or holding a Designated Services Credential who wish to qualify themselves to become directors of guidance (or fill similar supervisory positions in pupil personnel) may do so by completing the requirements of the Supervision Credential. This program is offered in conjunction with the Department of School Administration and Supervision from which some course work will be taken.

Both the credential and Master's degree programs are entirely postbaccalaureate. They may be based upon either a teaching credential or an approved Bachelor's degree program. Adviser approval is required for all courses to be applied toward either a degree or credential objective.

SPECIAL PROGRAMS

A Satellite program, sponsored by the Education Professions Development Act, for the training and improved utilization of counselors of minority youth is being conducted by the department. Persons interested in further information should contact David Frey regarding the EPDA Satellite project.

The West Coast Center for five Bay Area Satellite programs is also housed within this department. Its purpose, through the Center-Satellite arrangement, is to improve the general nature of Pupil Personnel Services in the public schools, especially with reference to the problems of minority youth. Inquiries may be directed to Alvin Jones.

Full continuation of this program for 1974-75 is uncertain and is contingent upon continued federal funding. Certain aspects of this program will be carried out within the School-Community segment of the Counseling Program even if federal funding is not continued. Interested students are encouraged to address inquiries to the above faculty member.

Application and Admission

The goal of the departmental admissions policy is to admit those students who show strong promise both as graduate students and as professionals. Unfortunately, limitation of college facilities makes it likely that not all students who apply can be accepted. As long as an application is complete in the department prior to the established deadline, it does not acquire any priority by early submission. However, because of the typically long delays involved in obtaining the necessary transcripts from other institutions, the advance arrangements needed for taking tests, and the necessary processing time in this college and department, the applicant is advised to initiate his application and its required supporting documents at least four months before the deadline for applying.

1974-75 Admission

Procedures for 1974-75 admission have been described in the previous catalog.

1975-76 Admission

Procedures:

A. Apply to the CSUH *Office of Admissions* as soon after November 1, 1974, as possible. File a Request for Entry into a Graduate Program form on which you designate your graduate objective to be a degree program and/or credential offered in this department.

B. Arrange to take the Aptitude Section of the Graduate Record Examination, or the Miller Analogies Test (as required by the program to which you are applying) which are administered locally by the Berkeley Office of Educational Testing Service. Have your verbal and quantitative scores sent directly to this *department*. (Scores on file which are not more than three years old may be forwarded in lieu of re-taking the examination.)

C. Send to this *department* an original statement in which you describe your academic and professional goals, and the personal motives, strengths, and weaknesses which are relevant to those goals.

D. Send two official copies of all college transcripts to this *Department*.

E. Get letters of recommendation from professionals in your field.

All applications for the Fall Quarter of 1975 must be complete in this department by April 1, 1975. It is the applicant's responsibility to ascertain that his application is complete by the deadline. Incomplete files will not be acted upon. Notifications of the action taken by this department will be mailed on or before June 15, 1975.

Students who are accepted into the department will normally be admitted in Classified standing and assigned an official adviser from the faculty of the department.

Admission Requirements

Although credential and Master's degree programs are not identical, both are conducted at the level of graduate school standards; consequently, admission standards are common to the two programs.

1. A Bachelor's degree from an accredited institution.
2. An undergraduate grade point average of at least 2.5 overall.
3. A grade-point average of at least 3.0 or better on upper-division work related to the proposed area of graduate study.
4. Grade-point average of 3.0 or better on all post-baccalaureate work related to the proposed area of graduate study.
5. Satisfactory completion within the specified deadlines of the required departmental application procedures.

Related Matters

Registration Advising

The student *must* consult his adviser prior to registration for each quarter, and should maintain close contact at all times with the adviser for advice and information. Registration without the adviser's signature of approval will not be allowed.

Supervised Fieldwork

Arrangements for admission to fieldwork or internship assignments are completed prior to final admission. These are made by recommendations from faculty and present or previous employers, and the development by the University of an agreement for placement in selected sites. Application for field placement is to be filed with the appropriate program coordinator at the time of application. Most field placements begin in the fall quarter and run through the year.

Advancement to Candidacy

Advancement to candidacy for the master's degree as a formal degree candidate requires prior completion of the following steps:

1. Completion of three or more courses at the 6000 level within the Educational Psychology department.
2. Completion of all required departmental examinations and prerequisites.
3. Maintenance of a 3.0 grade point average or better in all departmental coursework and over all post-baccalaureate work.
4. Acceptance by the department of a proposed formal program of study, including a thesis proposal.
5. Recommendation by the faculty of the department for acceptance as a candidate.

The Standard Designated Services Credential with a Specialization in Pupil Personnel Services

Persons wishing to work in the schools as counselors or psychologists need to complete an approved training program and be officially credentialed by the State Commission for Teacher Preparation and Licensing. Described below are the pupil personnel credential programs at the University which have been accredited to train people for these service areas under the Fisher Act. It should be noted, however, that because changes in the State regulations are presently being effected, some modification of CSUH requirements and programs may be expected under the Ryan Act. If substantive changes are implemented by September 1974, persons enrolling at that time will proceed under such new requirements as may become effective. Applicants are advised to seek the latest information from the Department of Educational Psychology with regard to any State level changes and related program changes if such are relevant to a decision to pursue a program.

Three general requirements must be met under the Fisher Act.

1. A Master's degree in counseling psychology, or an academic subject.
2. Forty-five to ninety quarter hours of post-baccalaureate course work in pupil personnel, with substitutions of units depending upon the candidate's teaching or counseling experience and credential goal.
3. Field work or internship.

Courses Required

The program of a student will depend upon which duties he wishes authorization to perform, whether or not he has had teaching or counseling experience, and whether or not he already holds a Master's degree in counseling, psychology, or some other academic subject area.

Descriptions of the program concentrations leading to the various duty authorizations follow. Within each, the requirements for persons with and without teaching experience are separately stated. Consult an adviser to determine the sequence of courses to follow. Neither course numbers nor order of listing indicates the order in which courses should be taken.

1. Authorization limited to pupil counseling and child welfare and attendance.

- (a) Applicant with 3 years successful teaching experience and 45 quarter hours of other post-baccalaureate work (such as the 5th year teaching credential work) will complete Course Groups 1 and 2.
- (b) Applicant without teaching experience will complete Course Groups 1, 2, and 3, except that he will substitute electives for EPsy. 6720, EPsy. 6911, EPsy. 6912, EPsy. 6025, and EPsy. 6746.
- 2. Authorization for administration of individual examinations under supervision for purposes of placing pupils in special classes and authorization as a competent psychologist.
- (a) All applicants will complete Course Groups 1, 2, and 3.
- 3. Authorization as a school social worker.
- (a) CSUH does not presently offer a school social work specialization, but school psychology authorization includes school social work authorization.

Course Group 1

- E.Psy. 5750. Pupil Personnel Work (4)
- Psych. 4410. Behavior Pathology (4)
- Psych. 4610. Psychology of Personality (4)
- E.Psy. 6750. Counseling Theory (4)
- E.Psy. 6701. Appraisal Procedures (4)
- E.Psy. 6762. Group Theory and Procedures (4)
- E.Psy. 6735. Educational and Vocational Planning (4)
- T.Ed. 6020. Research in Education (4)
- E.Psy. 5021. The Exceptional Child (4)
- E.Psy. 5570. Organization and Administration of Pupil Personnel Services (4)

Course Group 2

- E.Psy. 6610. Pupil Personnel Seminar (2)
- E.Psy. 6660. Field Work in Pupil Personnel Services (2) or E.Psy. 6770. Pupil Personnel Internship (2-6)
- E.Psy. 6620. Pupil Personnel Seminar (2)
- E.Psy. 6661. Field Work in Pupil Personnel Services (2) or E.Psy. 6770. Pupil Personnel Internship (2-6)
- E.Psy. 6630. Pupil Personnel Seminar (2)
- E.Psy. 6662. Field Work in Pupil Personnel Services (2) or E.Psy. 6770. Pupil Personnel Internship (2-6)

Course Group 3

- E.Psy. 6810. Advanced Pupil Personnel Seminar (2)
- E.Psy. 6860. Advanced Field Work in Pupil Personnel Services (2)
- E.Psy. 6746. Learning Disabilities (4)
- E.Psy. 6720. Concepts of Intelligence (4)
- E.Psy. 6911. Mental Testing Practicum (4)
- E.Psy. 6912. Personality Assessment I (4)
- E.Psy. 6025. Psychopathology of Childhood (4)

To complete the required number of units and provide the basis for the University's verification of competency as a psychologist, the following additional courses as part of Group 3 will normally complete the program for the psychologist authorization. The department may require additional educational experiences if such is deemed essential to develop the competency level needed for this verification.

Course Group 3 (continued)

- E.Psy. 6700. Advanced Educational Psychology (4)
- E.Psy. 6751. Advanced Seminar in Counseling and Psychotherapy (4)
- Statistics Approved Elective (4)
- E.Psy. 6820. Advanced Pupil Personnel Seminar (2)
- E.Psy. 6830. Advanced Pupil Personnel Seminar (2)
- E.Psy. 6861. Advanced Field Work in Pupil Personnel Services (2)
- E.Psy. 6862. Advanced Field Work in Pupil Personnel Services (2)
- E.Psy. 6880. Advanced Pupil Personnel Internship (2-6)

Supervision Credential (Pupil Personnel)

The CSUH program to meet the requirements for this credential is listed below.

- (a) Master of Science in Education or Master of Science in Counseling with Specialization in School Counseling.
- (b) Completion of General Pupil Personnel Services Credential or Designated Services Credential with a Specialization in Pupil Personnel.
- (c) Completion of five years experience as a teacher, pupil personnel, health, or library worker in the public elementary or secondary schools or private schools of equivalent status.
- (d) Completion of an internship in supervision, E.Psy. 6897. *Supervision Internship* (12), plus 6 elective hours.

OR

Completion of 18 quarter hours of professional education including:

1. SAS 6000. Leadership and School Organization (4)
2. E.Psy. 5570. Organization and Administration of Pupil Personnel Services (4)
3. E.Psy. 6670. Supervision of Pupil Personnel Services (4)
4. E.Psy. 6891, 6892, 6893. Supervision Seminar (2-2-2)
5. E.Psy. 6894, 6895, 6896. Supervision Field Work (2-2-2)

Special Education Preparation

Through the completion of coursework offered as part of the Education Master's degree, option in Special Education, or the Designated Services credential program, persons can prepare themselves for teaching classes for the severely handicapped, the learning handicapped, or the gifted or for working with such children in other settings. One's program, depending upon background and plans, usually will involve approximately three electives in addition to the set of courses listed below. No individual may prepare for the Special Education teaching program without a Single Subject or Multiple Subject Teaching Credential.

E.Psy. 5021. Exceptional Child (4)
 E.Psy. 6121. Counseling Exceptional Children (4)
 Spch. 4610. Speech/Drama in the Elementary Classroom (3)
 E.Psy. 6122. The Mentally Retarded Child (4)
 E.Psy. 6746. Learning Disabilities (4)
 T.Ed. 5140. Reading and Language Development in Children (4)

or

T.Ed. 6230. Improving Reading in the Elementary School (3)
 E.Psy. 6123. Psycho-Educational Aspects of Exceptional Children (4)
 E.Psy. 6660-61. Field Work (4)
 E.Psy. 6160. Exceptional Child Laboratory (4)

The Master of Science in Education

The Master of Science in Counseling

For information on the Master's degrees, see the Graduate Catalog.

THE DEPARTMENT OF KINESIOLOGY AND PHYSICAL EDUCATION

The Department of Kinesiology and Physical Education offers courses leading to the bachelor of science degree with a major in physical education. The purpose of this major is the study of the human as an individual engaging in the motor performance of his daily life and in other motor performances yielding aesthetic values or serving as an expression of the physical and competitive nature. This major is *basic* to the professional field of physical education and to advanced study at the graduate level. In addition to the basic Physical Education Option there is also, within the major, a specialized Dance Option.

In addition, the department offers a wide selection of physical education activity courses open to all interested students and sponsors programs in intramural and intercollegiate athletics and dance performance.

The Physical Education Major leading to a B.S. Degree

General Requirements

- I. Complete requirements for general education.
- II. Complete the following requirements in the major:
Lower division—Satisfy the departmental skill proficiency requirements, and complete the courses in one of the two options.

Units

	P.E. Option	Dance Option
Anth. 1000. Introduction to Anthropology (4)		
Biol. 1000. Principles of Biology (5)		
Biol. 2061, -2. Anatomy and Physiology (4,4)		
Soc. 2000. Introduction to Sociology (4)	25-26	25-26
Stat. 1000. Elements of Probability and Statistics (5) or Stat. 1100. Elements of Descriptive and Inferential Statistics (4)		
Psych. 2000, 2010. General Psychology I, II (4,5)	9	
P.E. 2102. Rhythmic Analysis (2) and		
P.E. 2080. Modern Dance Performance Theatre (1) or		3
P.E. 2081. Ethnic Dance Performance Theatre (1)		
	34-35	28-29

Complete a total of 44 units in the following areas:

Core courses

P.E. 3300. Kinesiological Measurement	5	5
P.E. 3310. Bio-Mechanics	5	5
P.E. 3320. Physiological Mechanisms	5	
P.E. 3330. Sensorimotor Skill	5	
P.E. 3500. History of Dance	4	
P.E. 4500. Dance in Contemporary Society	3	
	20	17

Electives, selected from the following, in consultation with an adviser:

	Units		
	P.E. Option	Dance Option	
P.E. 3200. Survey of Ethnic Dance (3)			
P.E. 3201-04. Folk-Ethnic Dance Forms (3 each)			
P.E. 3241. Theory of Modern Dance (3)			
P.E. 3242. Composition of Dance, Solo Forms (3)			
P.E. 3243. Composition of Dance, Group Forms (3)			
P.E. 3244. Dance Production (3)			
P.E. 3500. History of Dance (4)			
P.E. 3700. Athletics of the Ancient World (4)			
P.E. 3710. Rise of Modern Sport (4)			
P.E. 3720. Development of American Professional Physical Education (4)			
P.E. 3730. Racism in Sport (4)			
P.E. 4220. Dance Seminar (4)			
P.E. 4320. Physiology of Exercise (5)			
P.E. 4330. Sensorimotor Skill Acquisition (5)			
P.E. 4340. Motor Development (4)			
P.E. 4390. Seminar in Kinesiology (4)			
P.E. 4720. Sport in Contemporary Society (4)			
P.E. 4790. Seminar in Social Theory of Sport (4)			
P.E. 5235. Creative Dance for Children (3)	24	27	
	—	—	
	44	44	

III. Students planning a teaching career in physical education must also complete a minimum of 20 units in professional courses selected in consultation with the departmental adviser.

	Units	
Required:		
P.E. 4030. Professional Field Experience I.....	1	
Electives:		
P.E. 3000-09. Theory of Sport..... Max. of	8 *	
P.E. 4031. Professional Field Experience II.....	1	
P.E. 4035. Exercise Prescription	4	
P.E. 5400. Care and Prevention of Athletic Injuries	5	
P.E. 5420. Psycho-Social Factors in Competitive Athletics	3	
P.E. 5440. Adapted Physical Education	5	
P.E. 5500. Applied Kinesiology.....	4	
P.E. 5610. Physical Education Programs and Facilities	4	
P.E. 5620. Seminar for Supervision in Physical Education	4	

IV. In addition to the course work specified, all teaching candidates majoring in physical education must complete (a) a series of skill competency tests, (b) the requirements for admission to teacher education, (c) the professional courses in teacher education, including either P.E. 5200 or P.E. 5210.

* Six units are required. Two additional units may be taken as electives.

Skill Proficiency Requirements

- The total proficiency requirement for a physical education major is the completion of 5 advanced level activities. For a major intending to student teach an additional 5 acquaintance level activities is required. *All four* of the general activities areas must be represented in the total ten proficiency areas. The four general areas are: Individual, Aquatic, Team (group) and Dance.

The Dance Minor

The Minor in Dance has two tracks as illustrated below. Prerequisite to upper division course work is a background of technique and performance in Modern and/or Folk-Ethnic Dance.

Requirements

1. *General*

P.E. 2102. Rhythmic Analysis	Units	2
P.E. 3310. Bio-Mechanics	5	
P.E. 3500. History of Dance.....	4	
2. a. *Modern Dance*

P.E. 2220. Dance Improvisation	2	
P.E. 3242. Composition of Dance, Solo Forms	3	
P.E. 3244. Dance Production	3	
- b. *Folk-Ethnic Forms*

P.E. 3200. Survey of Ethnic Dance	3	
P.E. 3201-10. Ethnic Dance Forms (at least one)	3	
3. Plus electives from the following to total 30 units:

* P.E. 3241. Theory of Modern Dance	3	
P.E. 3243. Composition of Dance, Group Forms.....	3	
P.E. 3201. Ethnic Dance Forms (other from series)....	3 each	
P.E. 3244. Dance Production	3	
P.E. 3242. Composition of Dance, Solo Forms	3	
P.E. 4220. Dance Seminar	3	
P.E. 4500. Dance in Contemporary Society.....	4	
* P.E. 5235. Creative Dance for Children	3	

The Master of Science Degree in Physical Education

A full description of the Master's program may be found in the Graduate Catalog.

* Required of students taking this Minor as a teaching Minor.

THE DEPARTMENT OF RECREATION

The Department of Recreation offers courses leading to the Bachelor of Science degree in Recreation. The purposes of the program are to provide a series of educational experiences which develop understandings about recreational behavior, and the social institutions through which such behavior is expressed; to provide a sound undergraduate education for students who will pursue advanced degrees in graduate schools; and to provide the basic educational preparation for graduates who will seek careers in a wide variety of leisure-service agencies at the local, regional, state, and national levels.

The Department also offers courses leading to a recreation minor and to a park and recreation administration specialization in the Master of Public Administration degree.

The Recreation Major Leading to a B.S. Degree

Students pursuing this degree must plan their program with a recreation adviser to assure proper selection of courses.

Requirements for the degree are as follows:

I. GENERAL EDUCATION.	Complete General Education requirements as listed in this Catalog.	
II. MAJOR REQUIREMENTS.		
A.	Rec. 1000, 2200, 3000, 3500, 3700, 4000, 4890, 4910, 4915	36
B.	Select two from the following. Rec. 4300, 4400, 4600, 4700.....	8
C.	Psych. 2000, 2010, 3500 or Soc. 2000, 2400, 3500	12-13
D.	Upper-division courses in education, psychology and/or sociology (selected from an approved list)	15-16
E.	One course in ecology (selected from an approved list)	4
F.	Activity and/or theory courses in one or more of the following fields: art, drama, music, physical education	12
Total.....		87-88

THE DEPARTMENT OF SCHOOL ADMINISTRATION AND SUPERVISION

GENERAL INFORMATION

The School of Education offers graduate study leading to the Master of Science degree in Education with a specialization in School Administration and Supervision. A candidate for the degree must either hold an approved Administrative, Supervisory, or Administrative Services Credential or meet the credential requirements concurrently. Particular attention is called to present and changing credential requirements. Modifications of credential requirements, consistent with the Ryan Act and subsequent additions (Education Code 13141 *et al.*) will be reflected in the Departmental brochure as soon as a program is approved by the Commission for Teacher Preparation and Licensing.

The Master of Science in Education Concentration in School Administration and Supervision

The full description of the Master's Program is to be found in the Graduate Catalog.

THE DEPARTMENT OF TEACHER EDUCATION

The Department of Teacher Education offers "approved programs" for professional preparation for Multiple Subject and for Single Subject Teaching Credentials; a program of Community College Teaching; programs for the Master of Science in Education in three Options: Curriculum, Early Childhood Education, and Reading; and in-service programs and courses for teachers. Programs for Specialist Credentials in Bi-Lingual/Cross-Cultural Education, Early Childhood Teaching, and Reading are currently being prepared.

Basic Teaching Credential Program

The Commission for Teacher Preparation and Licensing of the State of California (hereinafter called, "Commission") has approved programs for the professional preparation for Multiple Subject Teaching and for Single Subject Teaching offered by the Department of Teacher Education.

Multiple Subject Credential: The Multiple Subject Credential limits the holder to teaching in any self-contained classroom (where a teacher or teaching team has responsibility for all or most areas of instruction for a set of students). The credential allows teaching at any level of the public schools, preschool through grade twelve, and in programs for adults, if the assignment is in a self-contained setting. Assignment of teachers and students to self-contained classes is common in California in preschools and elementary schools.

Single Subject Credential: The Single Subject Credential limits the holder to the teaching of an authorized single subject area (the teacher teaches the same subject area to different groups of students during the school day). The credential allows teaching at any level of the public schools, preschool through grade twelve, and in programs for adults (not Community College instruction), if the assignment is in the authorized subject area. Assignment of teachers to specified subject area courses is common in California in junior and senior high schools.

Minimum legal requirements for the Multiple Subject and the Single Subject Credentials:

1. A baccalaureate or higher degree, except in professional education, from an approved institution.
2. Subject matter competence demonstrated *either*
 - a. by passing a subject matter examination approved by the Commission for the credential teaching area, *or*
 - b. by completing a subject matter preparation program approved by the Commission (this is usually a bachelor's degree major program).
- 2.1 Multiple Subject academic preparation is based upon a "diversified" or "liberal arts" major program or equivalent. This includes approximately equal units of coursework in each of four areas of subject matter: English and speech, science and mathematics, arts and humanities, and social sciences. At CSUH the Liberal Studies major includes a Commission-approved program for Multiple Subject preparation.

- 2.2 Single Subject academic preparation is based upon a bachelor's degree major program within one of the following single subject areas: art, business, English, foreign languages, government, history, mathematics, music, natural science, physical education, physical science, and social science. (The additional areas of home economics and industrial arts are not available on this campus. *Professional* preparation for the Single Subject Teaching Credential in business is not available on this campus.) University majors within a single subject area (e.g. sociology, geography, anthropology, etc., in the social sciences) *may* provide the single subject academic preparation. For information about this, consult an adviser in the academic major.
3. A program of professional education approved by the Commission, including professional education coursework and student teaching. The student teaching must total at least one-half of the program.
4. Competence in the teaching of reading demonstrated *either*
 - a. by passing an examination in the teaching of reading approved by the Commission, *or*
 - b. by completing a program of instruction in the teaching of reading approved by the Commission.

Single Subject Teaching Credential candidates in the areas of art, music, and physical education are exempted, by law, from this requirement. At CSUH candidates in art, music and physical education may elect to include the program of reading instruction in their professional preparation, but are not required to do so. The instruction in methods of teaching reading program at CSUH is included in the professional preparation program for all other candidates for either credential.

Upon successful completion of the four requirements listed above, a candidate is granted a "preliminary teaching credential" in the appropriate subject matter area. Such a credential is valid for public school teaching in California, pending completion of the two requirements stated below, for a period of "five years from the start of initial employment as a teacher." The two additional requirements for "full credential" status are:

5. Completion of a "fifth year" of study. At CSUH, a fifth year of study means earning of 45 quarter units of upper division, professional and/or graduate level coursework after completion of the bachelor's degree. It may be met in part by the professional preparation program (see below).
6. Completion of TWO years of teaching in California public schools (or schools of equivalent status).

The Professional Preparation Program:

The Professional Preparation Program for Multiple Subject and for Single Subject Credentials may be completed in one of three patterns within the required FIVE years of college work:

1. *Undergraduate:* The entire professional preparation program may be completed during the four-year program of undergraduate study. The teacher who earns a preliminary teaching credential at graduation from the four-year program will have "five years from initial employment as

a teacher" to complete the fifth year of study. The fifth year of study may be, but need not be, taken or completed at CSUH.

2. *Start Undergraduate, Finish Post-baccalaureate:* The professional preparation program may be started as an undergraduate student and completed after graduation from the four-year program. The candidate receives the preliminary credential upon completion of the academic preparation program and degree *and* the completion of the professional preparation program. Units in the programs taken after completion of the baccalaureate degree requirements will count toward the 45 needed for the fifth year. The teacher will have "five years from initial employment as a teacher" to complete the remaining units for the fifth year. The remaining units may be, but need not be, taken at CSUH.
3. *Post-baccalaureate:* The entire professional preparation program may be taken after completion of the requirements for the bachelor's degree. The program units (39) will count toward the fifth year requirement. The candidate will receive the preliminary credential upon completion of the academic *and* professional preparation programs. The teacher will have "five years from initial employment as a teacher" to complete the remaining units for the full fifth year. The six additional units for the fifth year may be taken before, during, or after the professional program. The units may be, but need not be, completed at CSUH.

The professional preparation program has "variants" for candidates interested in earning the Multiple Subject or Single Subject Credential (at each of the three patterns of college work shown above) and a special variant program for candidates interested in teaching "middle school" (grades 5-8). Special variant programs for Teacher Corps candidates and for intern teachers are available (see the Department of Teacher Education for information and requirements).

The variants in the professional preparation program are essentially the same. Completion of a program is based upon the development and demonstration of a wide range of teaching knowledges and abilities. Each candidate must demonstrate "competence" in teaching in many different ways and in a variety of settings, including at least one student teaching experience with a class of racial, ethnic, or cultural background different from the candidate's own background. Most of the competence requirements must be demonstrated with student teaching experiences, including the equivalent of one quarter in full-time student teaching. To develop the background knowledge needed for teaching, a set of "program elements" (called PE's) is used. Each PE (Program Element) is more than a "course." Each PE includes coursework, group study, and independent study. Each PE is completed by demonstrating competence in the content required. The PE's are numbered in the 5300 series in Teacher Education courses.

The professional preparation program has three components:

	Units
1. Professional education coursework	13
2. Methods of teaching reading	6
3. Student teaching experiences	20
	—
Program Total	39

Examples of sequences of PE's in the professional preparation program are:

1. Typical program sequence for undergraduate candidates, four quarters of PE's, taken in sequence (Quarter One may be Spring or Summer, the other quarters are consecutive: Fall, Winter, Spring).

Quarter One	Quarter Two	Quarter Three	Quarter Four (requires full-time student-teaching)
5301 PE I 4	5305 PE IV 2	5310 PE V 3	5315 PE VI 2
5302 PE II 2	5321 PE RB 2	5331 PE STB 3	5335 PE STD 6
5325 PE RC 2	5330 PE STA 4	5332 PE STC 3	5336 PE STE 4
5320 PE RA 2		8	9
		10	12

2. Typical program sequence for post-baccalaureate candidates, three quarters of PE's, taken consecutively (except Summer), requires full-time participation in the program each quarter.

Quarter One	Quarter Two	Quarter Three
5301 PE I 4	5310 PE V 3	5315 PE VI 2
5303 PE III 2	5321 PE RB 2	5326 PE RD 2
5305 PE IV 2	5331 PE STB 3	5335 PE STD 6
5320 PE RA 2	5332 PE STC 3	5336 PE STE 4
5330 PE STA 5		11
		14

There are some variations in the programs, e.g., Middle School programs use two sequences, a three quarter sequence like that in 2, above, and a four quarter sequence which differs from that in 1, above. The Department of Teacher Education can provide more detailed descriptions of the program variants.

Preparing for a teaching credential program:

Students who wish to become teachers are encouraged to consult advisers in the Department of Teacher Education early in their work at CSUH (the freshman year is not too soon) and regularly thereafter. Advisers in each program are identified by the Department to work with undergraduates interested in teaching. In addition to career information, the advisers can be helpful in selecting alternatives for general education, in planning for meeting prerequisites, and in using elective units advantageously. Three areas of special concern are:

1. *Subject matter preparation program:* The Department requires candidates to complete the subject matter preparation before student teaching. Undergraduate program, Middle School program, and Teacher Corps candidates must complete the subject matter requirement before the full-time student teaching placement in the final quarter. Post-baccalaureate program candidates, except those in Middle School and Teacher Corps variants, must complete the subject matter requirement before entry into the professional preparation program. The Department of Teacher Education will provide information to students about subject

matter programs approved by the Commission for CSUH, about subject matter examinations approved by the Commission, and about alternatives which may be available, and will help students locate appropriate subject matter advisers to assist them in this important part of teacher preparation. It is very important that plans for meeting subject matter requirements be made at the earliest possible time in the lower division of college work. Meeting the requirements may require careful selection among alternatives for lower division general education requirements, in addition to major coursework.

2. *Program prerequisites:* The prerequisites for admission into the professional preparation program must be completed *before* admission (except as noted in the following Section, "Requirements for Admission . . .", paragraph 3). The prerequisites can be met as part of the lower division general education and/or as part of the upper division general education requirements or, in some cases, as part of major requirements. Since most prerequisites require coursework, a delay of at least one quarter in admission to the professional preparation program will occur if the prerequisites have not been completed (note: some program variants only start once a year).
3. *Organized experiences with children and youth:* Prospective candidates are encouraged to obtain experience working with children or youths. Participation in such programs as community youth agencies, youth organizations, camp counseling, tutorials, teacher aide activities, and organizations for prospective teachers are regarded as valuable background for credential program candidates.

Requirements for admission to the professional preparation program:

1. *Application Procedures:*

a. Students *not currently* enrolled at CSUH:

Apply to the Office of Admissions, CSUH, for admission to the University for the quarter in which you expect to start the program. You must provide evidence of such application to the Department before it can process your application to the program.

Apply to the Department of Teacher Education for a "Request for Entry into a Teacher Credential Program." Complete it, attach the required transcripts and letters, and return it to the Department.

b. Students who *are currently* enrolled at CSUH:

Apply to the Department of Teacher Education for a "Request for Entry into a Teacher Credential Program." Complete it, attach the required transcripts and letters, and return it to the Department.

c. Students who are changing from undergraduate status to post-baccalaureate status at CSUH must apply for admission to graduate work at CSUH. This is done at the Admissions Office. For students entering the program as post-baccalaureate students, this must be completed before admission. Satisfactory compliance with the admissions standards and procedures and with the deadlines of CSUH and of the Department of Teacher Education is necessary for admission.

The Department of Teacher Education has limited space in its professional preparation program variants. Applications are taken from the *opening date* for a variant until the quota of applicants for that program variant is filled. It is important to file the "Request for Entry" as soon after the opening date as possible. For 1974-1975, these dates are:

Program Variant	First Quarter	Multiple Subject	Single Subject
Undergraduate	Spring 1975	Aug. 1, 1974	Aug. 1, 1974
Post-baccalaureate	Summer 1974	Feb. 1, 1974	XXX
	Fall 1974	Nov. 1, 1974	Nov. 1, 1973
	Winter 1975	June 1, 1974	XXX
	Spring 1975	Aug. 1, 1974	XXX
	Summer 1975	Feb. 1, 1975	XXX
	Fall 1975	Nov. 1, 1974	Nov. 1, 1974
Middle School	Fall 1974	Nov. 1, 1973	Nov. 1, 1973
	Spring 1975	Aug. 1, 1974	Aug. 19, 1974

(See the Department of Teacher Education for the status of openings in program variants after the starting dates listed above and for information about special programs)

2. *Admission procedures.* Admission to the professional preparation programs is determined by the Admissions Committee of the Department of Teacher Education and by the Program Teams (which include University faculty, public school faculty, and community representatives). The Committee notifies each applicant, by letter, of admission, of delay in admission, or of denial of admission. Among the criteria used by the Committee are the following:

- Grade point average (GPA):* Candidates must have an earned grade average for college work of 2.50 overall or 2.75 in all major coursework or 2.75 in two years of upper division coursework or must gain special approval by the Admissions Committee for provisional entry into the program.
- Interview:* Candidates must be approved by an interview team. The team will include at least two members of the Department Faculty and may include faculty members from subject matter departments (required for single subject applicants), public school faculty members, and/or community representatives and other candidates.
- Prerequisites:* See paragraph 3, below, for details of prerequisites. The completion of all prerequisites is required for admission. The Admissions Committee *may* make exceptions in unusual circumstances.
- Health clearance:* Candidates are required to provide evidence of a negative test for tuberculosis prior to any placement in the schools (Since all variants place candidates in schools in the first quarter, that is a requirement for entry to the program activities and must be completed by the start of the first quarter) and are required to provide a medical clearance for student teaching signed by a medical practitioner licensed to practice in the State of California prior to placement in student teaching (the clearance should be based upon an examination shortly before the first student teaching quarter and *must* be received prior to the start of the quarter or placement in student teaching will be delayed.)

- e. *Undergraduate Major Department Approval:* Applicants for admission to the *undergraduate* professional preparation program must have written permission from their major advisers or department chairmen for admission into the program *and* must also obtain written permission from the departments for entry into the student teaching experiences.
- f. *Selection:* Only a limited number of positions are open in each variant program. The Admissions Committee must use a ranking system to select applicants for admission. In that ranking system, experience in organized programs for young people, as a teacher or teaching aide, especially in school is highly valued. Such experience should be documented by letters from program supervisors or teachers detailing the length of experience and the responsibilities of the candidate. Special subject matter or teaching competencies in short supply in schools are desirable and should be documented. Personal characteristics which offer promise of success in teaching are important, also. The ranking is developed from the data presented in the application information, personal letters of documentation or support, and the personal interviews.

3. *Academic requirements for admission (prerequisites):*

- a. *Subject matter proficiency for the Credential:* Candidates must demonstrate proficiency in the subject matter scope and content approved by the Commission for the credential authorizations they seek. The requirement must be met by all candidates before entry into full-time student teaching. Demonstration procedures for subject matter proficiency were discussed in the section on "Minimum Legal Requirements . . ." at the start of the Teacher Education section of this Catalog. Each variant has a designated point by which the subject matter requirement must be met:

Undergraduate program: Before placement in full-time student teaching (before the final program quarter).

Post-baccalaureate Multiple Subject and Single Subject programs: Before student teaching in the subject matter area (before the first quarter of the program). Single subject candidates seeking more than one authorization must complete the subject matter proficiency for each authorization before student teaching in each area.

Middle School Program: Before full-time student teaching (before the last program quarter).

Teacher Corps: Before full-time student teaching.

Post-baccalaureate Intern program: Before the start of teaching.

- b. *Speech proficiency:* Candidates must complete a course in oral communication (e.g., Spch. 1000) or pass a test in this area *and* must pass a speech clearance test. These prerequisites are handled by the Department of Speech and Drama in cooperation with the Department of Teacher Education. Undergraduate program candidates may delay completion of these requirements until the start of student teaching.
- c. *English proficiency:* Candidates must complete an upper division course in English, including composition. English 3003 is the standard

course for this requirement. Qualified students may challenge the course by examination and a composition examination is available to Liberal Studies Majors in their Upper Division English courses for waiver of this requirement. This requirement is handled by the Department of English in cooperation with the Department of Teacher Education. Undergraduate program candidates may delay this requirement until the end of the second program quarter.

- d. *Mathematics proficiency:* Candidates for the Multiple Subject Teaching Credential program must demonstrate understanding of the concepts of mathematics commonly taught in elementary and middle school grades *prior* to admission to the program. This requirement may be satisfied by:
 - (1) passing an examination approved by the Department of Mathematics and the Department of Teacher Education, *or* by
 - (2) passing a course approved by the Department of Mathematics and the Department of Teacher Education. The standard course is Math. 4021. The course may be challenged by examination.

Undergraduate program candidates must complete the mathematics proficiency requirement prior to placement in full-time student teaching.

Candidates for Multiple Subject recommendation by CSUH after completing a different teacher preparation program must complete the mathematics proficiency requirement prior to such recommendation. (It may be possible for such candidates to apply directly to the Commission for the additional credential, instead.)

Mathematics Education competency: Candidates for recommendation for the Multiple Subject Teaching Credential by CSUH must demonstrate competence in mathematics education. This requirement is included within the Multiple Subject professional preparation at CSUH. Candidates completing a different preparation program and seeking a Multiple Subject recommendation from CSUH must complete the requirement prior to recommendation. The candidate may elect approved coursework in the Department of Mathematics to meet this requirement after completion of a professional preparation program. (It may be possible to apply directly to the Commission for the additional credential, instead.)

These requirements are handled cooperatively by the Department of Mathematics and Teacher Education.

4. *Denial of Admission to the Program:*

- A student may be denied admission to the Credential Program if:
 - a. he fails to complete the required application procedures on time; *or*
 - b. he has been convicted of a crime which bars the granting of a credential; *or*
 - c. there are insufficient places in the program, *and*
 - d. he is found by the faculty Admissions Committee to be deficient in one or more of the criteria above, or is found to be less likely than other applicants to be a successful teacher.

Grading Practices and Disqualification from the Program:

- 1. *Special Grading Practices:* The University has two grading systems: A, B, C, D, F; and CR/NC (credit, no credit). Under University policy the student is graded on the A-F system unless a specific request for CR/NC grades is made for each class at the beginning of the quarter with the

Records Office. The Department of Teacher Education follows this policy *excepting* for field supervision courses in the professional preparation programs are graded as CR or NC. Under special conditions candidates may be given more than one quarter to complete difficult competency requirements. In such cases a grade of SP (satisfactory progress) is assigned until the requirement is completed.

2. *Disqualification:* A student who receives less than a "C" or "CR" grade in any course required in the professional preparation program or who fails to maintain a G.P.A. of 2.5 or better in any quarter in the program is subject to disqualification.

A student who fails to demonstrate a high level of performance in the skills of writing, speaking, and language use is subject to re-evaluation by the Department Admissions Committee and possible disqualification.

A student may be removed for cause from the professional preparation program at any time by the Chairman of the Department of Teacher Education with the concurrence of the Dean of the School of Education.

For information about an appeal of a decision to deny admission or to disqualify from the professional preparation program, the student should contact the Department of Teacher Education.

Teaching Specialist Credential Preparation Programs

The Department of Teacher Education is preparing programs for approval by the University and the Commission for Teacher Preparation and Licensing for teaching Specializations in Bi-Lingual/Cross-Cultural Education, Early Childhood Teaching, and Reading. Contact the Department for information about the status of the programs and about the details for admission to them.

Community College Program

The Departments of Teacher Education and of Educational Psychology offer programs in teacher preparation and counselor training for individuals interested in a professional career in Community Junior Colleges and other post-secondary institutions.

Community College Instruction: The Community College Instructors program consists of the following courses and field work:

	Units
TED. 6001. Seminar on the Community College	4
TED. 5693. College Teaching	5
TED. 5694. Seminar on College Teaching	3
	—
Program Total	12

Admission Requirements:

1. Meet the graduate admission standards of CSUH.
2. Complete a "Request for Entry to Community College Programs" to the Department of Teacher Education.
3. Complete an interview with the Coordinator of Community College Programs.

Community College Counseling: The Community College Counselors program consists of the following:

1. Prescribed courses and electives in the Department of Educational Psychology leading to the Master of Science in Counseling.
2. Three quarters of field experience in a community college (EPsy. 6660, 6661, 6662).
3. Enrollment in community college student personnel seminars. (EPsy. 6610, 6620, 6630).

Admission Requirements:

1. Meet the graduate admission standards of CSUH.
2. Meet the admission requirements of the Department of Educational Psychology.
3. Complete an interview with the Coordinator of Community College Programs.

The Master of Science in Education

A Master of Science Degree with three options is offered in the Department of Teacher Education. The options are:

1. *The Master of Science Degree in Education with an Option in Early Childhood Education* is designed to provide advanced preparation for teachers and administrators in preschool and primary grades.
2. *The Master of Science Degree in Education with an Option in Curriculum* is designed to provide advanced preparation for teachers within a specialized area such as mathematics education, children's literature, environmental education, and multiculture education.
3. *The Master of Science Degree in Education with an Option in Reading Instruction* is designed to provide advanced preparation in the teaching of reading at all levels of public school instruction.

See the *Graduate Catalog* or contact the Coordinator of Graduate Programs of the Department of Teacher Education for information about these programs.

In-Service Professional Programs for Teachers

The Department is developing programs consisting of short sequences of courses treating specialized topics important to teachers. In general, these programs will consist of three or four courses to be offered in rotation, one per quarter. Such sequences are designed to develop professional skills for classroom teachers. At present, two such programs are available in regular coursework of the Department:

Literature in the Classroom (including basic courses in children's and adolescent literature and in multi-ethnic literature).

Environmental Education (outdoor education, school camping, field trips for studying the environment, etc.)

See the Department of Teacher Education for information about such programs.



SCHOOL OF SCIENCE

Departments: Biological Science, Chemistry, Earth Sciences, Mathematics, Nursing, Physics, Psychology, Statistics

School Dean: Leon H. Fisher

Associate Dean (Acting): Nancy S. Harrison

Department of Biological Science

Professors: Howard L. Cogswell, Norman N. Goldstein, Tom C. Groody, Phyllis P. Gross, H. Duane Heath, Ann E. Heuer (Associate Chairman), C. Jack Lutt, Edward B. Lyke, Robert A. Main, James W. Nybakken, George H. Peterson, P. Victor Peterson, Walter K. Schoenholz, Harvey I. Scudder, Arthur C. Smith

Associate Professors: Robert J. Baelman, John C. Belton, Rolf W. Benseler, Christopher O. Hawtrey, George R. Johnson, Samuel M. McGinnis, Dennis R. Parnell (Chairman)

Assistant Professors: Lynne O. Elkin, J. M. Erickson, Michael S. Foster, V. M. Neill, Richard A. Symmons, Richard E. Tullis

Department of Chemistry

Professors: Richard E. Bozak, John E. DeVries, Milton E. Fuller, Richard S. Monson (Chairman), Donald L. Peterson, P. Victor Peterson, Jr., John C. Shelton, Marion C. Woods, Milka R. Zhivadinovich

Associate Professors: Kevin D. Cadogan, Leroy Chauffe, Charles T. Perrino

Assistant Professors: Edward E. Genser, Richard T. Luibrand, R. Peggy Smith

Department of Earth Sciences

Professors: Elwood R. Brooks, Jon C. Cummings (Chairman), P. Victor Peterson, Jr., Robert C. Whitney

Associate Professors: Leigh W. Mintz, Alexis N. Moiseyev, Detlef A. Warnke

Assistant Professors: Sue E. Hirschfeld, Michael M. Wood

Department of Mathematics

Professors: Frances C. Amemiya, Allen K. Charnow, John D. Hancock, Peter H. Jessner, George Pedrick, Colbert T. Purvis, George J. Resnikoff, Max Shiffman, Arthur B. Simon (Chairman), Thomas H. Southard, John W. Summers, Theodore N. Tracewell, Bruce E. Trumbo, John E. Weidlich, Włodzimierz S. Wrona

Associate Professors: Jeanne C. Barry, Peter A. Fowler, Richard E. Goodrick, Edward L. Keller, Victor M. Manjarrez, Russell L. Merris, Kenneth R. Rebman, Ranjit S. Sabharwal, Marianne R. Smith, Hwa Tang, Marvin R. Winzenread

Assistant Professors: Gary E. Lippman, Charles M. Marut, Christopher L. Morgan, Louise E. Moser, Kenneth B. Salomon, Edwardine M. Schmid, Howard B. Stauffer, John Van Eps, Jack S. Zelver

Department of Nursing*Professor:* Dora M. Blackmon (Chairman)*Assistant Professors:* Jean Hunter, Jane A. Moller-Frazier, Phyllis Stern*Instructor:* Regina Bowlus*Lecturers:* Florence F. Chiao, Eileen O'Riordan, Harvey L. Rosenthal, Ann H. Schanck**Department of Physics***Professors:* Richard K. Cooper, Leon H. Fisher, John C. Giles, Robert H. Good, Andrew Guthrie, Charlie Harper, Marian Whitehead (Chairman)*Associate Professor:* Ann C. Birge*Assistant Professor:* Daryl W. Preston**Department of Psychology***Professors:* Georgia Babladelis, Norman Livson (Chairman), Arnold Mechanic, Robert W. Moulton, William L. Sawrey, Ronald J. Schusterman, Donald J. Strong*Associate Professors:* Richard L. Floyd, Judith A. Hunt, Stuart T. Klapp, Fred I. Leavitt, Roy T. Matsumoto, Allan Netick, Joan E. Sieber, Wiley C. Small*Assistant Professors:* Vicki R. Cohen, Nancy S. Harrison, Eleanor L. Kaplan, Alan Monat, Michael E. Patch, Jordan Rosenberg, Arnold E. Stoper, David G. Tieman*Lecturer:* John D. Lovell**Department of Statistics***Professors:* Heebok Park (Chairman), George J. Resnikoff, William L. Sawrey, John W. Summers, Bruce E. Trumbo*Associate Professor:* Elliott Nebenzahl*Assistant Professors:* Richard Drogin, Dean H. Fearn, Richard Y. Kakigi, Michael Orkin, Ninja Paik, Richard M. Stanley**CURRICULA OFFERED****Graduate Degrees***

Biological Science (M.A.)

Chemistry (M.S.)

Mathematics (M.S.)

Physics (M.S.)

Statistics (M.S.)

Baccalaureate Degree Majors

Biological Science (B.S.)

Chemistry (B.A., B.S.)

Earth Sciences (B.S.)

Mathematics (B.S.)

Nursing (B.S.)

* For further details, see the Graduate Catalog or inquire at the departmental office.

Physics (B.A.)

Physical Science (B.S.)

Psychology (B.A.)

Statistics (B.S.)

Academic Minor

Earth Sciences

PURPOSES

To offer liberal arts, applied and preprofessional programs, to prepare teachers for the elementary and secondary schools and to offer general education and service courses.

INDEPENDENT STUDY AND DIRECTED GROUP STUDY

Students with special interests not covered in the courses listed may arrange from one to five units of work on an independent study basis by registering for Independent Study. Specific requirements for each independent study program must be worked out with the appropriate faculty member.

Directed Group Studies are available at all levels in the several disciplines represented in the school. They will be offered as special circumstances warrant.

HIGH SCHOOL MATHEMATICS PREPARATION

Four years of college preparatory mathematics is strongly recommended for students expecting to major or minor in mathematics or sciences. In any case, such students should have completed at least two years of algebra and one year of geometry, or one and one-half years of algebra, trigonometry and one year of geometry. A student not having this minimum preparation should consult his adviser.

CALCULATOR ROOM

See page 34 for detailed information.

MARINE SCIENCES

MOSS LANDING MARINE LABORATORIES *

The California State University and Colleges operate the Moss Landing Marine Laboratories at Moss Landing, California. This marine facility functions as a seaside extension of the campuses of six cooperating State Universities and Colleges (Hayward, San Jose, Fresno, San Francisco, Stanislaus, and Sacramento), and offers course work in marine biology, geology, meteorology, oceanography and other marine sciences. The curriculum is designed to fulfill major requirements for qualified upper-division and graduate students. Such students can plan their academic schedules to provide for one or more terms at the Moss Landing Marine Laboratories and will be considered as in-residence at Hayward. Students may also take one or two all-day courses at Moss Landing to supplement their on-campus schedule. (The Admissions and Records Office has information for concurrent registration.)

Interested students should make early application because enrollment is limited. Consult advisers in the Department of Biological Science or the Department of Earth Sciences for further details, or write to the Director, Moss Landing Marine Laboratories, P.O. Box 223, Moss Landing, California 95039.

The Moss Landing Marine Laboratories operate during the fall and spring on a semester basis, and on a quarter basis during the summer. The courses described under "Marine Sciences" in Part III of this catalog, p. 325, if taken during the regular academic year meet for 50% more time than the same course taught during the summer. Thus the credits shown on p. 325 ff. are for semester credits or quarter credits depending on when the courses are taken. For example, a CSUH student taking a four-unit course during a semester will be credited with 6 quarter units.

Moss Landing Registration Procedures

To register in Marine Science courses offered at Moss Landing Marine Laboratories, students must follow the appropriate procedure:

- Registration for courses at Moss Landing only.** Student must contact the Secretary at Moss Landing Marine Laboratories for space reservation or the Assistant Director of Admissions and Records at California State University, Hayward, for details.
- Registration for courses at both Moss Landing and the Hayward campus.** Student must register on the Hayward campus during regular registration time. This registration is to be only for the courses in which he will be enrolled on campus at Hayward. Registration for Moss Landing courses will be on the *semester* basis at Moss Landing Marine Laboratories. Concurrent enrollment is *not* recommended.
- Registration for courses at Moss Landing and for independent or individual study at the Hayward campus.** Student must file the Independent or Individual Study forms, appropriately signed, at the time of registration. Forms should be submitted to the Secretary at Moss Landing Marine Laboratories or to the Assistant Director of Admissions and Records at the Hayward campus.
- Registration at Moss Landing for the Fall and Spring Semesters will take place one to two weeks earlier than registration for on-campus Hayward offerings.**

* For course descriptions, see *Marine Sciences*, page 325.

THE DEPARTMENT OF BIOLOGICAL SCIENCE

In addition to general interest courses in biology, the department offers preprofessional and applied programs. The latter programs are designed for students in liberal arts, and for students preparing for graduate study, elementary and secondary teaching, and for work in applied biological disciplines. A standard program in Medical Technology is offered to qualify students for traineeships in Bay Area hospitals which lead to state certification.

ADVANCED PLACEMENT, BIOLOGICAL SCIENCE

A student who has successfully completed an advanced placement course in biology in high school and has earned a score of "3", "4" or "5" on the Advanced Placement Examination * will be granted unit credit for Biol. 1102 and 1103 (ten units). (No letter grade will be assigned or computed in the student's grade point average.)

For procedure in obtaining advanced placement credit, see Advanced Placement, page 63.

The Biological Science Major Leading to a B.S. Degree

- Complete the 76-unit requirement in general education, which is required for all majors. Biology majors, and transfer students in particular, must be aware of the State university and college requirement of 60 quarter units in courses numbered 3000 or above, taken after attaining upper-division standing (p. 62). Transfer students in biology should consult an adviser during their first quarter on campus to plan a program.

Study of one or more modern foreign languages is highly recommended.

- Complete the following requirements:

<i>Physical Sciences and Mathematics</i>	<i>Units</i>
General Chemistry (Chem. 1101-2-3)	15
Organic Chemistry (Chem. 2301-2, or 3301-2-3)	8 or 15
College Algebra (Math 1130) or Elementary Functions and Coordinate Geometry (Math 1300) or Calculus I (Math 1304)	4**
Basic Concepts of Probability (Stat. 2400)	4
Introductory Physics (Phys. 2701, 2, 3)	9
Physics Lab (Phys. 2781, 2, 3)	3

Biological Science Core Program

<i>Units</i>
Foundations of Biological Science (Biol. 1101-2-3)

* This is prepared and offered by the College Entrance Examination Board.

** Students may elect up to eight additional units of mathematics from Math 1304, 1305, 2301, 2302, 2303, or 1710. Biologists going on to graduate work should plan to complete Math 1305 as a minimum.

† Transfer students who have taken an introductory college course in biology, botany or zoology will be placed in the appropriate quarter of Biol. 1101-2-3 to complete their background, or exempted from one or more of these three courses on the basis of a placement examination. More advanced transfer students may be exempt from completion of these courses on the basis of advanced courses already completed.

Principles of Developmental Biology (Biol. 3140)	4
Principles of Ecology (Biol. 3110)	4
Principles of Genetics (Biol. 3120)	4
Principles of Evolutionary Biology (Biol. 3130)	4
Principles of Physiology (Biol. 3150)	4

Concentration in Advanced Biological Science

Electives in biological science. (May include up to 9 units of approved courses in sciences other than Biology and <i>pertinent to the student's area of special interest</i> . The approved courses are Phil. 3011, Geog. 4210, Chem. 4411, 4412.)	15-22
Total units	100

Illustrative Program for the Biological Science Major

	Units		
	Fall	Wint.	Spr.
<i>First Year</i>			
Biol. 1101,-2,-3. Foundations of Biological Sciences	5	5	5
Chem. 1101,-2,-3. General Chemistry	5	5	5
Mathematics, Statistics, or General Education.....	4-8	4-8	4-8
	14-18	14-18	14-18
<i>Second Year</i>			
Phys. 2701,-2,-3. Introductory Physics	3	3	3
Phys. 2781,-2,-3. Physics Laboratory	1	1	1
Chem. 2301,-2 or 3301,-2,-3. Organic Chemistry	4-5	4-5	4-5
Biol. 3110. Principles of Ecology	4		
Biol. 3140. Principles of Developmental Biology		4	
Biol. 3120. Principles of Genetics			4
General Education Courses	3-4	3-4	4
	15-17	15-17	16-17
<i>Third Year</i>			
Biol. 3130. Principles of Evolutionary Biology	4		
Biol. 3150. Principles of Physiology		4	
Biology elective	4-5	4-5	4-5
General Education and/or Electives.....	7-9	7-9	11-13
	15-17	15-17	15-17
<i>Fourth Year</i>			
Biology elective	4	4	
General Education and/or electives	11-13	11-13	15-17
	15-17	15-17	15-17

III. Prospective candidates for the Single Subject or Multiple Subject Teaching Credentials must consult with the teacher education adviser in the department. New credential programs under the Ryan Act are being developed.

IV. The Medical Technology Option is offered to prepare students for further training after graduation in hospital laboratories as required for State licensure of licensed Medical Technologists. Traineeships are available to qualified graduates in Bay Area hospitals and other laboratories throughout California. Traineeships are highly competitive. The Medical Technology option is also recommended for students contemplating graduate work in Public Health and related fields.

Students preparing for the option must complete the requirements for all majors set forth under (I) and (II). In addition, courses in quantitative analysis (Chem. 2200), microbiology (Biol. 3405), medical microbiology (Biol. 4410), immunology and serology (Biol. 4430), clinical chemistry (Chem. 3411, -2) medical parasitology (Biol. 3440), hematology (Biol. 3430), medical mycology (Biol. 3420) are required.

Illustrative Program for the Medical Technology Option

	Units		
	Fall	Wint.	Spr.
<i>First Year</i>			
Biol. 1101-2-3. Foundations of Biological Science	5	5	5
Chem. 1101-2-3. General Chemistry	5	5	5
Mathematics, Statistics or General Education courses.....	4-8	4-8	4-8
	14-18	14-18	14-18
<i>Second Year</i>			
Chem. 2200. Quantitative Analysis			5
Chem. 2301-2. Organic Chemistry	4	4	
Phys. 2701,-2,-3. Introductory Physics	3	3	3
Phys. 2781,-2,-3. Physics Laboratory	1	1	1
General Education courses	8	8	8
	16	16	17
<i>Third Year</i>			
Biol. 3110. Principles of Ecology	4	4	
Biol. 3120. Principles of Genetics			4
Biol. 3130. Principles of Evolutionary Biology			
Biol. 3140. Principles of Developmental Biology	4		
Biol. 3150. Principles of Physiology		4	
Biol. 3405. Microbiology	6		
Biol. 3420. Medical Mycology		4	
Biol. 3430. Hematology			4
Biol. 3440. Medical Parasitology			4
Biol. 4440. Immunohematology		3	
General Education Courses	0-4		3
	14-18	15	15
<i>Fourth Year</i>			
Biol. 4410. Medical Microbiology			5
Biol. 4420. Virology	5		
Biol. 4430. Immunology and Serology		5	5
Chem. 3411,-2. Clinical Biochemistry			5
Biol. 4481-9. Medical Technology Seminar (one course)	1		
General Education Courses	9	8	6
	15	18	16

Master of Arts in Biological Science

CSUH offers the Master of Arts degree in Biological Science with an option of specialization in the field of Environmental Biology (General Ecology, Vertebrate Ecology, Marine Ecology, Insect Ecology or Plant Ecology), or Physiological Biology.

The M.A. program in biological science is open to graduates of accredited institutions with a baccalaureate degree in any field of the biological sciences who have achieved a grade point average of at least 2.75 in all undergraduate work and an average of 3.00 in biological science courses. For detailed information on the requirements for the degree and admission procedures, see the Graduate Catalog.

THE DEPARTMENT OF CHEMISTRY

The Department of Chemistry offers courses of study leading to either a B.S. degree or a B.A. degree.

The program leading to the B.S. degree is approved by the American Chemical Society and is intended for those students planning to pursue graduate study or obtain positions in the chemical industry in a professional capacity.

The program leading to the B.A. degree is considerably more flexible and is designed to allow students to prepare for a variety of professional activities including chemical sales, chemical patent law, secondary school teaching, and medical or dental training.

Chemistry Major Leading to a B.S. Degree

(APPROVED BY THE AMERICAN CHEMICAL SOCIETY)

I. Complete the 76-unit requirement in general education which applies to all majors. Students completing this major may apply 9 units of mathematics courses in satisfaction of the *Basic Subjects* requirement (requirement A.2., p. 82), leaving only the English Composition requirement to be completed in *Basic Subjects*. Students may apply 12 units in satisfaction of the *Natural Sciences* requirement (requirement B.2., p. 83).

Students required to complete courses in a foreign language (see below) may apply such coursework to either the *Elective* requirement or the *Upper Division* requirement in general education.

II. Complete the following requirements:

<i>Lower Division</i>	<i>Units</i>
Chem. 1101, 1102, 1103. General Chemistry	15
Chem 2200. Quantitative Analysis	5
Math. 1300, 1304, 1305, 2304, 2101.....	20

Phys. 1101, 1102, 2101, 2102, 2103. General Physics	15
Phys. 1181, 1182, 2181, 2182, 2183. Physics Lab	5
 Total Lower Division Units.....	 60
 <i>Upper Division</i>	
Chem. 3301, 3302, 3303. Organic Chemistry	15
Chem. 4511, 4512, 4513. Physical Chemistry	9
Chem. 4531, 4532, 4533. Physical Chemistry Laboratory	6
Chem. 4161, 4162. Theoretical Inorganic Chemistry	6
Chem. 4240. Instrumental Methods of Analysis	3
Advanced Chemistry Electives.....	16
 Including:	
A. At least one course chosen from the following: 4180, 4310, 4330, 4430, 4810.	
B. At least two courses chosen from the following: 4170, 4210, 4311, 4312, 4340, 4411, 4412, 4521, 4522.	
C. Additional courses chosen from the above list of electives or from the following: 3110, 3410, 4110, 4700, 4820, 4900. (No more than six units of 4900 and 4810 combined may be applied to the Advanced Chemistry Electives for the B.S. degree).	
 Total Upper Division Units.....	 55
 III. Foreign Language Proficiency	
A reading knowledge of scientific German or Russian is required for the B.S. Degree. Candidates for the degree must pass a language examination which is given twice yearly by the Chemistry Department. Students are encouraged to complete appropriate courses in German or Russian prior to attempting the examination. In any case, students who have attained senior standing will be required to complete appropriate coursework before they may attempt the examination. (A minimum of 16 units of formal coursework will normally be considered sufficient preparation. Such coursework may be applied to either the <i>Elective</i> requirement or the <i>Upper Division</i> requirement in general education.)	
 IV. Summary of the B.S. Program	
The major	115
Foreign Languages	16
General Education Requirements (not satisfied by the major program)	39
Free electives	18
 Total Units	 188

Chemistry Major Leading to a B.A. Degree

I. Complete the 76-unit requirement in general education which applies to all majors. Students completing this major may apply 9 units of mathematics courses in satisfaction of the *Basic Subjects* requirement (requirement A.2., p. 82), leaving only the English Composition requirement to be completed in *Basic Subjects*. Students may apply 12 units in satisfaction of the *Natural Sciences* requirement (requirement B.2., p. 83).

II. Complete the following requirements

Lower Division

	Units
Chem. 1101, 1102, 1103. General Chemistry	15
Chem. 2200. Quantitative Analysis	5
Math. 1300, 1304, 1305, 2304. Elementary Functions and Coordinate Geometry, Calculus I, II, III.....	16
Phys. 2701, 2702, 2703. Introductory Physics	9
Phys. 2781, 2782, 2783. Physics Lab	3
	<hr/>
Total Lower Division Units.....	48

Upper Division

Chem. 3301, 3302, 3303. Organic Chemistry.....	15
Chem. 4511, 4512, 4513. Physical Chemistry.....	9
Upper Division Chemistry Electives (chosen with adviser's approval)	12
	<hr/>
Total Upper Division Units.....	36

III. Summary of the B.A. Program

The major	84
General Education Requirements (not satisfied by the major program)	55
Free electives	47
	<hr/>
Total Units.....	186

Option in Biochemistry

The Option in Biochemistry is a program that allows students to concentrate on an important subdivision of chemical-biological studies. It is suitable preparation for graduate work in biochemistry as well as other areas of chemistry or related fields.

I. Complete the 76-unit requirement in general education which applies to all majors. Students completing this major may apply 9 units of mathematics courses in satisfaction of the *Basic Subjects* requirement (requirement A.2., p. 82), leaving only the English Composition requirement to be completed in *Basic Subjects*. Students may apply 12 units in satisfaction of the *Natural Sciences* requirement (requirement B.2., p. 83).

II. Complete the following requirements

Lower Division

	Units
Chem. 1101, 1102, 1103. General Chemistry	15
Chem. 2200. Quantitative Analysis	5
Math. 1300, 1304, 1305, 2304. Elementary Functions and Coordinate Geometry, Calculus I, II, III	16
Phys. 2701, 2702, 2703. Introductory Physics	9
Phys. 2781, 2782, 2783. Physics Lab.....	3
Biol. 1101, 1102, 1103. Foundations of Biological Science	15
	<hr/>

Total Lower Division Units 63

Upper Division

Chem. 3301, 3302, 3303. Organic Chemistry	15
Chem. 4511, 4512, 4513. Physical Chemistry	9
Chem. 4411, 4412. General Biochemistry	8
Chem. 4430. General Biochemistry Laboratory	4
Two courses in Biology chosen from the following: Biol. 3120 (5), 3140 (4), 3150 (4), 3405 (6), 4170 (5), 4180 (4), 4225 (5), 4455 (5), 4501 (5), 4502 (5)	8-11
	<hr/>

Total Upper Division Units..... 44-47

III. Summary of the B.A. in Chemistry, Option in Biochemistry

The major	107-110
General Education Requirements (not satisfied by the major program)	55
Free electives	21-24

Total Units..... 186

Master of Science in Chemistry

CSUH offers the M.S. Degree with opportunities for study in the major areas of chemistry. For detailed information of the requirements for the Master of Science degree in Chemistry, see the Graduate catalog.

THE DEPARTMENT OF EARTH SCIENCES

The Earth Sciences Major Leading to a B.S. Degree

I. Complete the 76-unit requirement in General Education which applies to all majors. The *Basic Subjects* (exclusive of English Composition) and *Natural Sciences* area requirements are fulfilled by completion of the major; five units of the requirement in *Social Sciences* are fulfilled by those completing Earth Sciences/Geography 4100.

II. Complete the following core requirements:

	Units
<i>Lower Division</i>	
Chem. 1101, -2, -3	15
Math. 1300, 1304	8
Earth Sci. 2101 and 2201	10
	<hr/> 33
<i>Upper Division</i>	
Earth Sci. 3610, 3710, -20, -30; 3810, 3910	24
Earth Sci. 4800 *, -20	11
	<hr/> 35
Total core requirements	68

III. Complete the requirements in one of the options listed below:

A. Physical Geology Option: Designed for students interested in such fields as Geochemistry, Geophysics, and Petrology; serves as preparation for graduate work and/or professional employment in these fields. Students with professional objectives in Geochemistry or Geophysics should select the General Physics (1101, etc.) sequence.

	Units
1. <i>Either</i>	
Phys. 1101, -2; 2101, -2; 1181, -2; 2181, -2 and Math. 1305, 2304	24
<i>or</i>	
Phys. 2701, -2, -3; 2781, -2, -3 and 12 units of additional approved ** courses in Chemistry, Mathematics, or Statistics	24
2. <i>Plus the following:</i>	
Earth Sci. 4010, 4110, 4120, 4610	20
Approved ** electives in Earth Sciences, Chemistry, Physics, Mathematics, and/or Statistics	16
Total option requirements	60
Free electives	22
General Education courses	46
Total units for graduation with option A	196

* Earth Sci. 4800, a 1-unit seminar, must be taken three times to satisfy core requirements.

** Must be approved *in advance* by faculty adviser.

B. Earth Sciences Option: A liberal arts program for students seeking a terminal degree in the Earth Sciences and those planning to teach Earth Sciences in secondary schools. This option meets the basic requirements for many graduate schools but is not designed primarily as preparation for graduate study.

	Units
Phys. 2701, -2, -3; 2781, -2, -3	12
Math. 1710 or Stat. 3500	3-4
Earth Sci. 1400, 3400, 3520, 4100	18
Earth Sci. 4010 or 4110 or 4610 or 4630	4-5
Approved ** electives in Earth Sciences	26-28

Total Option Requirements	65
Free electives	22
General Education	41
	<hr/> 196

Total units for graduation with option B

C. Paleontology-Biostratigraphy Option: Designed primarily for students interested in Paleontology and the biologic aspects of Stratigraphy; serves as preparation for graduate study in those fields.

	Units
Biol. 1101, -2, -3	15
Phys. 2701, -2, -3; 2781, -2, -3	12
Stat. 3500	4
Earth Sci. 3520	4

Three courses from among: Biol. 3110, 3120, 3130, 4105, 4130

Approved ** electives in Biological Science, Earth Sciences, Mathematics or Statistics	12-14
	<hr/> 11-13

Total Option Requirements	60
Free electives	22
General Education	46
	<hr/> 196

Total units for graduation with option C

Students completing any of the options described above who are interested in Oceanography may take, as "Approved electives in Earth Sciences," those courses in Marine Sciences at Moss Landing Marine Laboratories that are offered through the Department of Earth Sciences. Other courses in Marine Sciences may be taken as free electives. Additional information on the Moss Landing Marine Laboratories and courses in Marine Sciences may be found under those headings in this catalog.

IV. Students intending to obtain a Teaching Credential may major or minor in Earth Sciences. Science Education 5120 is required of candidates working toward a Teaching Credential. (Contact the Department of Teacher Education for information concerning new Teaching Credential programs under the Ryan Act.)

** Must be approved *in advance* by faculty adviser.

Minor in Earth Sciences

I. Complete the following core requirements:		Units
Earth Sci. 2101 and 2201	10	
II. A. For an option in ENVIRONMENTAL EARTH SCIENCES, complete the following:		
Earth Sci. 1400.....	4	
Earth Sci. 3400 and 4100	10	
Electives in Upper Division Earth Sciences *	8	
	—	
Total units for a minor with an ENVIRONMENTAL EARTH SCIENCES option	32	
B. For an option in PALEONTOLOGY, complete the following:		
Earth Sci. 3520 and 3730	7	
Electives in Upper Division Earth Sciences *	13	
	—	
Total units for a minor with a PALEONTOLOGY option	30	
C. For an option in MINERALOGY/PETROLOGY, ** complete the following:		
Earth Sci. 3610 and 3710	10	
Electives in Upper Division Earth Sciences *	10	
	—	
Total units for a minor with a MINERALOGY/PETROLOGY option	30	
Teaching Credential candidates with a minor in Earth Sciences must complete one of the above options plus Sci. Ed. 5120. (See note under IV above concerning credentials.)		

* Must be approved *in advance* by faculty adviser.

** Open only to those who have completed one year of college chemistry.

902-29 12 620

THE DEPARTMENT OF MATHEMATICS

ADVANCED PLACEMENT, MATHEMATICS

A mathematics student who has successfully completed an advanced-placement course in calculus in high school and has earned a score of "3," "4," or "5" on the Advanced Placement Examination † will be granted unit credit for Math. 1300 (4 units) and Math. 1304 (4 units). (No letter grade will be assigned or computed in the student's grade point average.)

The Mathematics Major Leading to a B.S. Degree

- I. Complete the 76-unit requirement in general education, which applies to all majors. Students completing this major will have satisfied part of the general education requirement in natural sciences. See Graduation Requirements, General Education, part I, B, 2.
- II. It is extremely important that new Mathematics majors consult an adviser to plan the best program to meet their goals. Advisers are assigned in the Mathematics Office, North Science 335. Students who major in Mathematics are urged to take as many courses as possible in one outside area such as Biology, Chemistry, Economics, Physics, or Statistics. Study of one or more foreign languages is also recommended.
- III. Complete the following requirements in the major:

<i>Lower Division</i>		Units
Math. 1300	4	
Math. 1304	4	
Math. 1305	4	
Math. 2304	4	
Math. 2101	4	
	—	
Total Lower Division Units	20	

Upper Division

Breadth Requirement

Math. 3100	4
Math. 3121	4
Math. 3300	4
Math. 3331	4
Math. 3701	4

One of the following:

Math. 3215*	
Math. 4200	
Math. 4360	

Total Breadth Requirement Units

24

Depth Requirement

One of the following sequences

Math. 4121-4122

* Required as a prerequisite in the secondary teaching option.

† This is prepared and offered by the College Entrance Examination Board.

903-29 12 625

	Units
Math. 4331-4332	8
Math. 3702-4700	8
Math. 3841-3860 or 3870	8
Math. 3332-4361	4
Math. 4215-4216	4
 Total Depth Requirement Units	 8
Elective Upper Division Units	12
 Total Upper Division Units	 44

IV. To satisfy the diversity of interest among students majoring in mathematics, the department offers four special options. Each option specifies how the degree requirements might be satisfied in terms of the goals of the student. They *do not* represent additional requirements. It is *not necessary* that a student *select an option*.

1. *Secondary Teaching*: Preparation for the single subjects credential in mathematics.
 - a. Any sequence listed in the Depth Requirement of paragraph III above (courses in this sequence may also be used to satisfy the requirements in b. and c. below).
 - b. Math. 4215 4
 - c. Either Math. 3401 or 3502 4
 - c. Three courses from the following:

Math. 3101
Math. 3130
Math. 3600
Math. 3750
Math. 3841
Math. 4040
Math. 4121
Math. 4216
Math. 4331
Math. 4360 12

Total Secondary Teaching Option Units 20

2. *Mathematics of the Physical Sciences*: Preparation for graduate work in applied mathematics or professional employment in industry.
 - a. Math. 3332 4
 - b. Math. 4361 4
 - c. Math. 4331 4
 - d. Math. 3750 or 4320 or 4340 4
 - e. One related upper division elective 4

Total Mathematics of the Physical Sciences Units 20

3. *Mathematics of the Social and Management Sciences*: Preparation for graduate work in operations research or a professional career in social or management sciences.

	Units			
a. Math. 3841 and either Math. 3860 or Math. 3870	8			
b. Math. 3401	4			
c. Math. 3702 or Math. 4410	4			
d. One related upper division elective	4			
 Total Mathematics of the Social and Management Sciences Units	 20			
4. <i>Computer Science</i> : Preparation for graduate work in Computer Science or professional employment in business or industry. <ol style="list-style-type: none"> a. Math. 3702 and Math. 4700 8 b. Math. 3750 4 c. Math. 3401 4 d. One related upper division elective 4 	 20			
 Total Computer Science Units	 20			
V. Students contemplating graduate study in pure mathematics should satisfy the requirements for the degree by taking: <ol style="list-style-type: none"> a. Math. 4121 and 4122 8 b. Math. 4331 and 4332 8 c. One or more of the following: <table border="0" style="width: 100%;"> <tr><td>Math. 4340</td></tr> <tr><td>Math. 4350</td></tr> <tr><td>Math. 4360 4</td></tr> </table> 	Math. 4340	Math. 4350	Math. 4360 4	 20
Math. 4340				
Math. 4350				
Math. 4360 4				
 Total Units Required in the Major	 64			

Illustrative Program in Mathematics

NOTE: Only the mathematics courses are shown. This program is intended only as a suggestion. *Your actual schedule should be approved by your adviser.*

First Year

Math. 1300. Elementary Functions (F) (May be waived by placement exam or the equivalent of four years of high school math.)
 Math. 1304, 1305. Calculus I, II (W, Sp)

Second Year

Math. 2304. Calculus III (F)
 Math. 2101. Elementary Linear Algebra (F or W)
 Math. 3300. Introduction to Analysis (W)
 Math. 3121. Modern Algebra (Sp)

Third Year (Non-Transfer Students)

Math. 3100. Linear Algebra (F)
 Math. 3701. Introduction to Algorithmic Processes (F)
 (Computer oriented)
 Math. 3331. Differential Equations (W)
 Math. 3215. Foundations of Geometry (Sp)*
 Two electives approved by your advisor (W, Sp)

* The Geometry breadth requirement may be met by taking Math. 4200 or 4360.

Third Year (For students who transfer to CSUH with credit for basic calculus)

Math. 2101. Elementary Linear Algebra (F) (if not taken elsewhere)

Math. 3300. Introduction to Analysis (F)

Math. 3701. Introduction to Algorithmic Processes (F)
(Computer oriented)

Math. 3121. Modern Algebra (W)

Math. 3331. Differential Equations (W)

Math. 3215. Foundations of Geometry (Sp)*

Math. 3100. Linear Algebra (Sp)

Fourth Year

This year should be devoted primarily to subjects pertaining to your specific objectives. You should plan this selection carefully and well in advance with the help of your adviser.

The Master of Science in Mathematics

CSUH offers the degree, Master of Science in Mathematics. The interested student should contact the Mathematics Department where he can consult with a member of the staff and obtain literature which describes the program.

For detailed information on the requirements for the Master's Degree, see the Graduate Catalog.

* The Geometry breadth requirement may be met by taking Math. 4200 or 4360.

THE DEPARTMENT OF NURSING

The Nursing Major Leading to a B.S. Degree

PHILOSOPHY AND PURPOSES

The nursing faculty believes that professional nurses are prepared in a baccalaureate program. They are qualified to plan, organize and provide comprehensive nursing care to patients in a variety of institutional and community settings. They are prepared to work with nursing personnel and allied professionals in planning care, promoting and implementing optimum health programs. The ultimate goal of nursing education and service is high-quality nursing care for all patients. This can best be achieved when the interdependence of education and service is recognized and there is active collaboration.

It is the responsibility of the faculty to provide an environment in which the nursing student can continue to grow intellectually and acquire the knowledge and self-discipline necessary for professional practice. The nursing faculty recognizes the individual worth and the student's need to develop as a person and a citizen, as well as a practitioner.

The nursing faculty subscribes to the value of general education and nursing students meet the general education requirements at California State University, Hayward. "The general education program is planned as a sequence of courses outside the student's field of specialization. These scholastic experiences are designed to assure that each student who graduates with a baccalaureate degree possesses in the major fields of human knowledge the understanding, skills, and appreciation necessary for informed citizenship and continued growth and effectiveness as an educated person. The flexible design of the program allows the student in most of the areas of knowledge to select, according to his needs and goals, one of the several paths which satisfy specific requirements." (*California State University, Hayward—General Catalog, 1973-74*, pp. 82.)

OBJECTIVES

The Bachelor of Science degree in Nursing provides students with the opportunity to:

1. Prepare for the beginning practice of professional nursing.
2. Prepare for admission to the examination for licensure as Registered Nurses in California.
3. Acquire a liberal education.
4. Develop their potential as individuals, as citizens, and as professional practitioners.
5. Progress up the career ladder as rapidly as their ability, previous education, and experience will permit.
6. Acquire a foundation for graduate study in nursing.

General Requirements

Most nursing schools are currently receiving applications far in excess of the number of students that can be accommodated. In order to insure the quality of the program, it is necessary to limit the enrollment. To provide

equal consideration to all applicants the following procedures have been instituted for gaining admission to the clinical nursing program at California State University, Hayward.

Admission to the University

Normally applications to the Nursing Major are accepted only for the Fall Quarter of each academic year. The initial filing period for Fall Quarter is November 1-30 of the preceding year, i.e., eleven months before the applicant's first quarter of attendance.

All applications received during the initial filing period will receive equal consideration within the established enrollment categories and quotas, irrespective of the time and date they are received.

Applicants who can be accommodated with category quotas will receive confirmation of space reservation. Although the space reservation is not a statement of admission, it is a commitment on the part of California State University to admit a student once eligibility has been determined. Upon receipt of a notice of space reservation, he should initiate action to have transcripts of all college and high school work sent to the Office of Admissions and Records. After receiving all documents, the Office of Admissions will notify applicants of admission or denial.

Detailed information on application filing procedures are outlined in the application booklet.

Admission to the Clinical Nursing Program

Admission will be determined on the basis of academic achievement and aptitude for professional nursing. It should be made very clear that admission to the University will in no way guarantee admission to the Clinical Nursing Program. The first step in gaining admission is, of course, being accepted for admission by the University as indicated above.

During the Winter Quarter of their sophomore year students may make application to the Nursing Department for admission to the Clinical Nursing Program which begins in the junior year. Applicants entering the University as juniors must make application to the Nursing Department at the same time they apply to the University—usually in November of the preceding year. Applications for the Clinical Nursing Program close on the last day of Winter Quarter.

Candidates will be judged against the following criteria:

1. 2.5 g.p.a. in courses listed below.
2. Placement in 55th percentile on the National League of Nursing Natural Sciences Examinations. (Candidates are required to pay a \$10 fee to cover the cost of these examinations.)
3. Evidence of good health. (Immunization, chest X-ray, physical must be on file.)

The following courses must be completed before you can begin the Clinical Nursing Program:

	Units
Biol. 1000. Principles of Biology	5
Biol. 2061, 2062. Anatomy and Physiology	8
Biol. 4010. Microbes and Man	4

Chem. 1601, 1602, 1603. Basic Chemistry for the Health Sciences	15
Phys. 1700. Elements of Physics	3
Phys. 1780. Elementary Physics Lab	1
Psych. 2000. General Psychology I	5
Soc. 2000. Introduction to Sociology	4
Soc. 2400. Introduction to Sociological Research	4
Nurs. 1100. Introduction to Professional Nursing	3
Nurs. 2100. Nutrition	3
Nurs. 2110. Pharmacology	3

Licensed Vocational Nurses and Registered Nurses who wish to gain admission to the program must follow the same procedures, and must complete the same prerequisite courses.

California State University, Hayward permits students to petition to challenge courses by examination. Not more than 36 quarter units of credit obtained by examination may be applied toward the baccalaureate degree. Subject to the policies and procedures of the University, medical corpsmen, Licensed Vocational Nurses, and Registered Nurses may challenge some of the nursing courses by examination.

Clinical practice is an integral part of most nursing courses. This is provided at cooperating hospitals and health agencies in the Bay Area. Students are required to provide their own transportation to and from agencies, and to have a car to use during their Community Health Nursing experience.

Clinical courses must be taken in sequence. Because of the heavy load of clinical practice and the need to make long-range commitments to the hospitals and health agencies, only one clinical course may be taken in any one quarter. Students should plan to spend eight quarters in school after they begin the clinical program. The Department of Nursing makes no commitment to offer clinical courses during the Summer Quarter.

Requirements

I. Complete the 76-unit requirement in general education, which applies to all majors. Students completing this major will have satisfied the three course requirement in natural sciences, the three course requirement in social sciences, and two courses of the upper division requirements.

II. Complete the following:	Units
Biol. 1000, 2061, 2062, 3410, 4010	19
Chem. 1601, 1602, 1603	15
Phys. 1700, 1780	4
Psych. 2000	5
Soc. 2000, 2400	8
Anth. 3000	4
CDev. 3800	4
Nurs. 1100, 2100, 2110, 2205, 2206, 2207	24
Nurs. 3205, 3206, 3207, 4204, 4205	24
Nurs. 4301, 4302 or 4303, 4304	12
Approved upper division electives in nursing and related sciences	8

The Physical Science Major Leading to a B.S. Degree

The Physical Science major is designed to give the student breadth in the physical sciences while providing considerable strength in one of the spe-

cialized science fields of chemistry, earth science, or physics. The lower-division program in the physical science major is virtually the same as that taken in the first two years of college by a chemistry major, physics major, or earth science major (Option A), thus enabling students to transfer among these majors if they so choose. The lower-division program will also prepare students desiring to transfer to an engineering program. While the pattern of upper division science courses allows some flexibility in approved physical science electives, it also permits a solid foundation in one of the formal disciplines of physical science. Students intending to continue their interest in physical science into graduate school will normally choose the chemistry, earth science or physics major programs. The intent of the physical science major, on the other hand, is to provide an excellent understanding of the physical sciences in a broader perspective, and consequently the program has a larger number of free electives.

A major in physical science can serve as preparation for further study in technical fields. To enter graduate programs in chemistry, earth science, physics, biochemistry, biophysics, geochemistry or geophysics would require about a year of supplementary course work. Moreover, a major in physical science would serve as an excellent background for professional training in law, business, medicine, or education. Students planning to teach at the secondary school level will find that the strength in a single subject combined with breadth in other science fields offers a highly desirable combination.

For information on the Physical Science major, consult the School of Science office.

REQUIREMENTS

I. Complete the 76-unit requirement in general education, which applies to all majors. Students completing this major will have satisfied the 30 units of General Education in the basic subjects and natural sciences areas. (The area of emphasis determines the major department prefix for General Education purposes.)

Net units to be completed in general education	46
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II. Complete the following requirements in the major:

Lower Division Core	Units
Math. 1300, 1304, 1305, 2101, 2304.....	20
Chem. 1101, 1102, 1103.....	15
Phys. 1101, 1102, 2101, 2102, 2103	15
Phys. 1181, 1182, 2181, 2182, 2183	5
Lower Division Core Units	55

Complete One of the Following Options:

Option in Chemistry

Lower Division	5
Chem. 2200	5
Upper Division	15
Chem. 3301, 3302, 3303.....	15
Chem. 4500	5
Upper division elective in Chemistry	3
28 or;	30 or;

Option in Earth Sciences	Units
Lower Division	5
Earth Sci. 2101.....	5
Upper Division	15
Earth Sci. 3610, 3710, 3810	15
4110, 4120	10
30 or;	30 or;
Option in Physics	27
Upper Division	4
Math. 3331	4
Phys. 3181, 3182, 3183	3
Phys. 3311	4
Phys. 3331	4
Phys. 3720	4
Phys. 3811	4
Phys. 4310	4
27	27
Emphasis Units	27-30
Complete Sufficient Approved Upper Division Elective Units in a Physical Science or in Mathematics or Statistics to Bring the Total Upper division Units in Major to 36. Electives are to be Chosen from the Following Lists	27-30
Chemistry—any upper division course	9-13
Earth Sciences—any upper division course except 3300	9-13
Math. 3331, 3702, 3750, 4320	9-13
Phys. Sci. 4100	9-13
Physics—any upper division course	9-13
Stat. 3500, 4410	9-13
Approved Upper Division Elective Units.....	9-13
Total Units in Major	91-96
III. Free Electives.....	49-54
Total Units for Graduation	186
IV. Secondary teaching credential candidates must complete in addition:	186
(a) the requirements for admission to teacher education; (b) the required professional courses in teacher education; (c) the course Science Education 5120 (see <i>Science Education</i> , page 375).	186

THE DEPARTMENT OF PHYSICS

The Physics Department has a quality faculty, all with advanced degrees from major Universities. It contains well-known experimental and theoretical physicists who have active research interests as well as dedication to teaching. However, students in this program work much more closely with the faculty than is the case at large institutions. As part of the program, upper-division students work on individual physics projects under close supervision of a faculty member. The equipment available is of excellent quality and includes an infra-red spectrometer, electron-spin-resonance apparatus, ultra-high vacuum equipment for atomic and molecular collision phenomena, a multi-channel analyzer for nuclear radiation studies, etc.

Students are encouraged to pursue their interests in areas related to physics, such as geophysics, astronomy, biophysics, radiation physics, etc. This can be done by taking courses in the related fields, within the limitations of the basic program. Individual projects can be built up around the areas of interest to the student.

After successfully completing this program, the student will be qualified to enter graduate school (assuming adequate academic achievement), obtain a position in industry or in a governmental agency, or teach secondary school, after completing teaching credential requirements. The undergraduate physics major provides an excellent background for work in many technical fields, including the increasingly important field of environmental studies problems.

The Physics Major Leading to a B.A. Degree

Requirements

- I. Complete the 76-unit requirement in general education, which applies to all majors. Students completing this major will have satisfied requirements I., A., 2. and I., B., 2 (19 units) of lower-division General Education. Study of one or more modern foreign languages is highly recommended.
- II. Complete the following requirements:

	Units
<i>Lower Division</i>	
General Physics	20
General Chemistry	15
Mathematics (Calculus, Linear Algebra and Differential Equations)	20
 Total Lower-Division Units	 55
<i>Upper Division</i>	
Analytic Mechanics	8
Electricity and Magnetism	8
Modern Physics	12
Mathematical Physics	8
Junior and Senior Physics Laboratories	4
Electives†	8
 Total Upper-Division Units	 48

† Check with adviser.

Illustrative Program for the Physics Major

(General Education electives not shown)

	Units	Fall	Wint.	Spr.
<i>First Year</i>				
Math. 1304, 1305, 2304	4	4	4	4
Chem. 1101, 1102, 1103	5	5	5	5
Phys. 1101, 1102			3	3
Phys. 1181, 1182			1	1
<i>Second Year</i>				
Math. 2101, 3331	4	4		
Phys. 2101, 2102, 2103	3	3	3	3
Phys. 2181, 2182, 2183	1	1	1	1
<i>Third Year</i>				
Phys. 3311, 3312	4	4		
Phys. 3331, 3332			4	4
Phys. 3811, 3812	4	4		
Phys. 3183				1
<i>Fourth Year</i>				
Phys. 4321, 4322, 4323	4	4	4	4
Phys. 4181, 4182, 4183	1	1	1	1
Phys. Electives (e.g., Phys. 3510, 4170, 4210, 4310, 4410)	4	4	4	4

Master of Science in Physics

The Master of Science degree in Physics may be obtained through one of two options: Option A (course work plus comprehensive examination) or Option B (course work plus thesis). Interested students should contact the Department of Physics concerning this Graduate Program and the Graduate Catalog for detailed information about the general and specific degree requirements.

THE DEPARTMENT OF PSYCHOLOGY

The Psychology Major Leading to a B.A. Degree

Requirements

- I. Complete the 76-unit requirement in general education, which applies for all degrees.
- II. The major consists of not less than 41 units of *upper-division* psychology courses. The following courses are departmental requirements.
 1. Psych. 2000, 2010, 3100 and 4200.
 2. Stat. 1000,*† 3000* (formerly 2000); Biol. 1000* or equivalent.
 3. *One* course from *each* of the following options:
 - a. Psych. 3500, 4610.
 - b. Psych. 4210, 4300.
 - c. Psych. 3200, 4730, 4790.
 - d. Psych. 4310, 4320, 4350.
 4. *Two* courses from the following: Psych. 4800, 4801, 4802, 4803, 4804, and 4805. Although courses in this series may be repeated for unit credit, two *different* courses are required in the psychology major.
 5. *Twelve units from among the following courses. Courses taken under requirement II, 3 (above) may not be used to satisfy this requirement.*

Psych.

3050	4220	4346	4403	4610
3200	4300	4350	4410	4620
3500	4310	4360	4420	4730
3510	4320	4390	4451	4740
3520	4330	4401	4452	4790
4210	‡4345†	4402	4453	4890**

Stat.

4000

The completion of the major program for graduation requires at least a C average in the courses included in the major under II.

* May be used toward satisfying the Lower-Division Area Requirement in the Natural Sciences.

† May be taken credit/no credit.

‡ Formerly 4340.

** A maximum of 4 units of 4890 may be used toward satisfying requirement 5.

THE DEPARTMENT OF STATISTICS

PURPOSES

The Department of Statistics offers an undergraduate program leading to the degree of Bachelor of Science in Statistics and a graduate program leading to the degree of Master of Science in Statistics.

The purpose of the B.S. program is to prepare students for employment as statisticians and applied probabilists in government, business, and industry or for graduate study in mathematical statistics. Students are expected to become familiar with methods of data collection, such as experimental and survey design; with the most frequently used approaches to data analysis and interpretation; and with the construction and verification of probability models. They are also expected to learn enough mathematics and enough about the theoretical foundations upon which these applied methods rest so that they can continue after graduation to acquire an understanding of new techniques and the application of existing techniques to new situations. Finally, all students—but especially those who intend to work as statisticians before doing any additional academic work—are encouraged to develop some familiarity with the subject matter of at least one experimental or administrative science and with the importance of statistical methods to that field.

The Statistics Major Leading to a B.S. Degree

Requirements

- I. *General Education Requirements.* Complete the 76-unit requirement in general education, which applies for all majors.
- II. *Major Requirements.* Complete the three requirements specified below for a total of 68–74 units. (Unless otherwise indicated, all courses listed in this part are 4-unit courses.)
 - A. *Basic Requirement* (20–26 units)
 1. *All* of the following:
 - Math. 1300. Elementary Functions and Coordinate Geometry
 - Math. 1304, 1305. Calculus I, II
 2. *One* of the following:
 - Math. 3701. Introduction to Algorithmic Processes (computer programming and theory)
 - Math. 2304.† Calculus III
 3. *One* of the following courses (including also the indicated prerequisite course, if required):
 - Stat. 3000. Statistical Analysis I [and its prerequisite, Stat. 1000 (5)]
 - Stat. 3010. Statistical Methods in the Social Sciences [and its prerequisite, Stat. 1000 (5)]
 - Stat. 3031. Statistical Methods in Biology
 - Stat. 3500. Statistical Methods in Science
 - Mgmt. 3100. Intermediate Quantitative Analysis (5) [and its prerequisite, Stat. 2010 (5)]
 - Math. 2101.† Elements of Linear Algebra

† Students wishing to prepare for graduate study in probability theory, applied statistics, or mathematical statistics (mathematical statistics pattern) should select these courses.

B. Mathematical Statistics and Probability Requirement (28 units)

1. *All* of the following:
 - Stat. 2400. Basic Concepts of Probability with Applications
 - Stat. 3401. Introduction to Probability Theory
 - Stat. 3502, 3503. Statistical Inference I, II
2. *One* of the following:
 - Stat. 4410.† Introduction to Stochastic Processes
 - Stat. 4610. Nonparametric Statistical Methods for the Social Sciences
3. *One* of the following *pairs* of courses:
 - a. Stat. 4501, 4502.† Introduction to Mathematical Statistics I, II
 - b. Stat. 4601. Applied Statistics, *and*
Stat. 4602. Experimental Design

C. Area of Emphasis (20 units)

Complete *one* of the following twenty-unit requirements

- 1.† Twenty units of approved upper division mathematics or statistics courses in addition to those used for the requirements in Sections A and B above. Math. 3300, Intermediate Analysis, should normally be included in these 20 units.
2. Twenty units of approved courses in an approved area (specified by department or school). Areas currently approved include the following: Biological Science, Business/Economics, Chemistry, Earth Sciences, Physics, Psychology, Sociology.
To gain departmental approval, these courses must include at least one upper division course, and be judged to constitute a coherent program of study. (With the approval of the department, *upper division* Statistics courses, except Stat. 3000, Stat. 3010, and Stat. 3031, may be applied toward these twenty units.)

III. *Elective Courses.* Complete additional elective courses for a total of 186 units. The number of elective units in the 186-unit total will vary depending on how major requirements are met. For example, some mathematics courses can be applied toward both major requirements and *Basic Subjects* or *Natural Science* lower division General Education requirements, thus increasing the number of free electives. Most majors have about 60 or more elective units.

Restriction on Credit/No Credit Courses

It is the policy of the department that *no* course taken on a Credit/No Credit basis may be applied toward any of the requirements of Section II above. Individual petitions for waiver of this policy will be treated according to the same procedures as petitions to waive other degree requirements.

† Students wishing to prepare for graduate study in probability theory, applied statistics, or mathematical statistics (mathematical statistics pattern) should select these courses.

Double Major

A knowledge of statistical methods is of increasing importance to students in many areas, especially the physical, biological and social sciences and administrative studies. A second major in statistics along with a major in one of these areas may result in better preparation for employment or for graduate study. Three factors combine to make such a double major feasible in many cases: (a) the Statistics major allows for a relatively large number of completely unrestricted elective units. The student may elect courses required for the other major among these. (b) Up to twenty units in certain areas outside of Statistics may be applied toward the Statistics degree. (See requirement II-C above.) (c) Some other majors require Statistics courses that also count towards the Statistics major (e.g., Stat. 2010, Stat. 3010, etc.). An illustrative program using a joint major in Economics and Statistics as an example is among those provided below.

Note: If a student simultaneously completes requirements for two majors leading toward *different degrees* (e.g., B.S. in Statistics and B.A. in Sociology), only one degree (student's choice) is awarded. However, in all cases the student's transcript carries a notation that both sets of major requirements have been met.

Illustrative Programs for Statistics Major

Applied Pattern

For purposes of illustration, *Psychology* is used as the area of emphasis. This illustration presupposes a three-year mathematics background in high school. See an adviser to make adjustments to suit your own background and choice of area of emphasis.

Units			
	Fall	Wint.	Spr.
First Year			
Math. 1130. College Algebra ‡.....	4		
Electives or General Education.....	11		
Stat. 1000. Elements of Probability and Statistics		5	
Math. 1230. Analytic Trigonometry ‡.....		3	
Electives or General Education.....	7		
Stat. 3000. Statistical Analysis I			4
Math. 1300. Elementary Functions and Coordinate Geome- try			4
Electives or General Education.....			7
Second Year			
Math. 1304. Calculus I	4		
Stat. 2400. Basic Concepts of Probability with Applications	4		
Electives or General Education.....	8		
Math. 1305. Calculus II.....		4	
Psych. 2000. General Psychology I		5	
Electives or General Education.....		6	
Stat. 3401. Introduction to Probability Theory			4
Psych. 2010. General Psychology II.....			4
Electives or General Education.....			8
Third Year			
Stat. 3502. Statistical Inference I	4		
Math. 3701. Introduction to Algorithmic Processes.....	4		
Psych. 3100. Experimental Psychology I	5		
Electives or General Education.....	3		
Stat. 3503. Statistical Inference II		4	
Psych. 3500. Social Psychology		4	
Electives or General Education.....		7	
Stat. 4610. Nonparametric Statistical Methods for the Social Sciences			4
Psych. 4200. Conditioning and Learning			4
Electives or General Education.....			8
Fourth Year			
Stat. 4601. Applied Statistics	4		
Electives or General Education.....	12		
Stat. 4602. Experimental Design.....		4	
Electives or General Education.....		12	
Electives or General Education.....			15

† May be waived by examination; if waived by examination, the student must instead complete 4 units of approved electives.

Mathematical Statistics Pattern

This illustration presupposes four years of mathematics in high school and is an example of a program that would provide adequate preparation for graduate study in mathematical statistics. See an adviser to make adjustments to suit your own background and interests.

Units			
	Fall	Wint.	Spr.
First Year			
§ Math. 1300. Elementary Functions and Coordinate Geome- try			4
Electives or General Education.....		11	
Math. 1304. Calculus I			4
Electives or General Education.....		11	
Math. 1305. Calculus II.....			4
Stat. 2400. Basic Concepts of Probability with Applications			4
Electives or General Education.....			7
Second Year			
Math. 2304. Calculus III.....			4
Electives or General Education.....		11	
Math. 2101. Elements of Linear Algebra			4
Electives or General Education.....		11	
Stat. 3401. Introduction to Probability Theory			4
Electives or General Education.....			11
Third Year			
Math. 3100. Linear Algebra.....			4
Stat. 3502. Statistical Inference I			4
Electives or General Education.....			8
Stat. 3503. Statistical Inference II			4
Stat. 4410. Introduction to Stochastic Processes			4
Electives or General Education.....			8
Stat. 4601. Applied Statistics			4
Math. 3300. Intermediate Analysis.....			4
Electives or General Education.....			8
Fourth Year			
Stat. 4602. Experimental Design.....			4
Stat. 4501. Introduction to Mathematical Statistics I.....			4
Electives or General Education.....			8
Stat. 4502. Introduction to Mathematical Statistics II.....			4
Math. 4331. Advanced Calculus			4
Electives or General Education.....			8
Math. 4332. Advanced Calculus			4
Stat. 4610. Nonparametric Statistical Methods for the Social Sciences			4
Electives or General Education.....			8

§ Students must pass placement exam to be admitted to Math. 1300. Otherwise, Math. 1130 and/or Math. 1230 must be taken first. See adviser for appropriate program adjustment.

Double Major

For purposes of illustration *Economics* is used as the second major. This illustration presupposes four years of high school mathematics. See an advisor to make adjustments to suit your own background and choice of second major.

First Year

	Units		
	Fall	Wint.	Spr.
Math. 1300. ^{1,2,3} Elementary Functions and Coordinate Geometry	4		
Electives or General Education	11		
Math. 1304. ^{2,3} Calculus I		4	
Electives or General Education		11	
Math. 1305. ^{2,3} Calculus II		4	
Electives or General Education			11

Second Year

Stat. 2010. ^{2,3} Elements of Statistics for Business and Economics	5
Acct. 2251. ³ Principles of Accounting I	4
Math. 2304. ² Calculus III	4
Electives or General Education	3
Econ. 2301. ^{2,3} Principles of Economics I	4
Stat. 3010. ^{2,3} Statistical Methods in the Social Sciences	4
Electives or General Education	8
Econ. 2302. ^{2,3} Principles of Economics II	4
Stat. 2400. ² Basic Concepts of Probability with Applications	4
Math. 2101. ^{2,3} Elements of Linear Algebra	4
Electives or General Education	4

Third Year

Econ. 3005. ^{2,3} Macro-Economic Theory	4
Stat. 3401. ² Introduction to Probability Theory	4
Stat. 3502. ² Statistical Inference I	4
Electives or General Education	4
Econ. 3001. ^{2,3} Micro-Economic Theory I	4
Stat. 3503. ² Statistical Inference II	4
Stat. 4610. ² Nonparametric Statistical Methods for Social Science	4
Electives or General Education	4
Econ. 3002. ^{2,3} Micro-Economic Theory II	4
Stat. 4601. ² Applied Statistics	4
Econ. 3310. ³ Money and Banking	4
Electives or General Education	4

Fourth Year

Econ. 4895. ³ Workshop in Economic Research	1
Econ. 3200. ³ Comparative Economic Systems	4
Stat. 4602. ² Experimental Design	4
Electives or General Education	6
Econ. 4895. ³ Workshop in Economic Research	1
Econ. 3370. ³ Public Finance	4
Econ. 4400. ³ Introduction to Econometrics	4
Electives or General Education	6
Econ. 4895. ³ Workshop in Economic Research	1
Econ. 4590. ³ Senior Seminar in Economic Analysis	4
Econ. 4420. ³ Introduction to Mathematical Economics	4
Electives or General Education	6

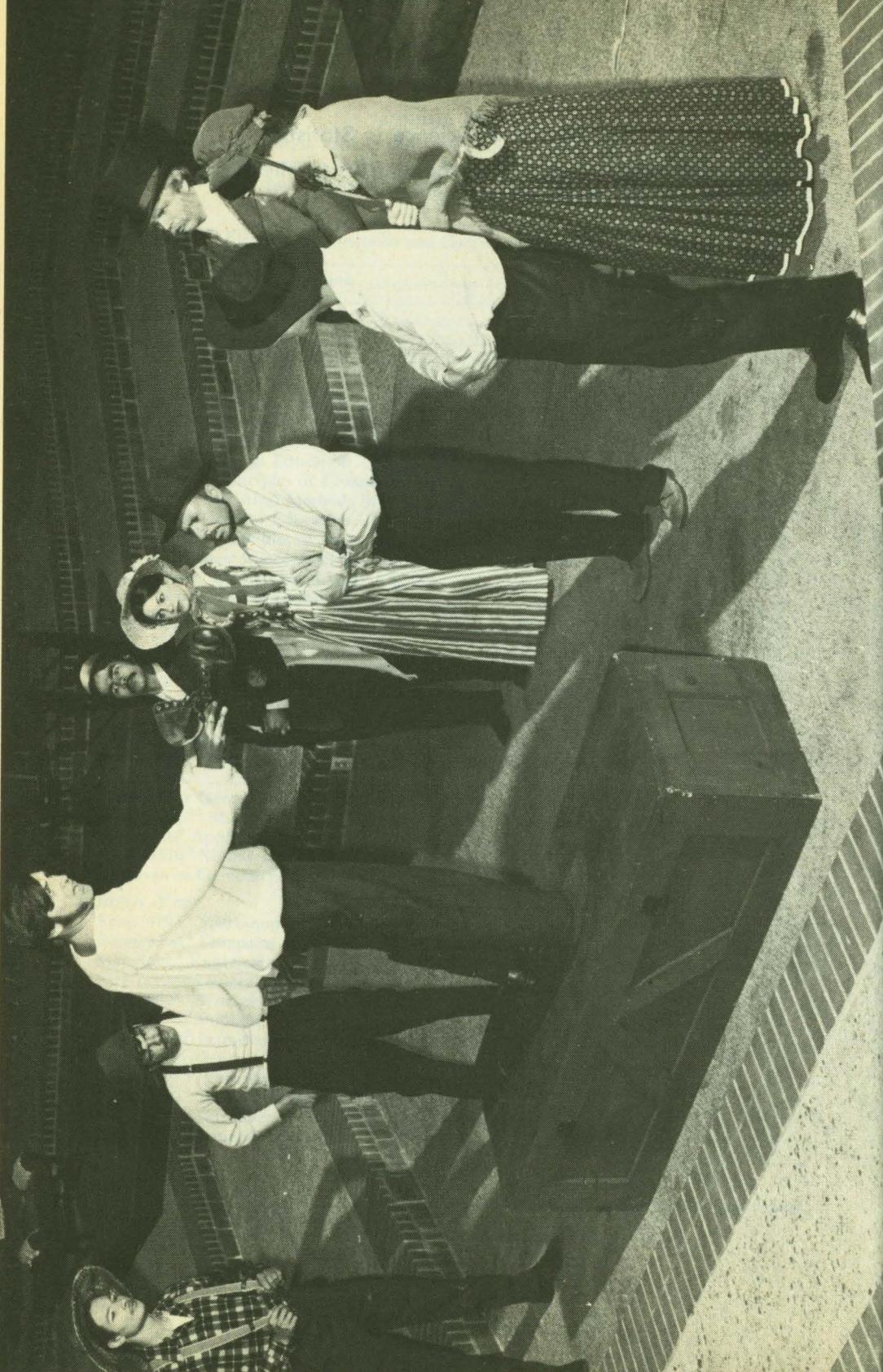
¹ Students must pass placement exam to be admitted to Math. 1300. Otherwise, Math. 1130 and/or Math. 1230 must be taken first. See adviser for appropriate program adjustment.

² Necessary prerequisite, required course, or recommended course for Statistics.

³ Necessary prerequisite, required course, or recommended course for Economics.

The Master of Science in Statistics

For detailed information on the requirements for the Master of Science in Statistics, see the *Graduate Catalog*.



PART III

DESCRIPTION OF COURSES

KEY

Quarter of offering may be subject to change without prior notice

F—Fall quarter

W—Winter quarter

Sp—Spring quarter

Su—Summer quarter

A—All quarters

Y—At least once a year

()—Unit credits appear in parentheses following title of course

Tent.—Tentatively } Alt.—Alternate } (used with one of the basic symbols above)

Course Numbering

The numbering of courses is intended to describe the level at which they are offered. Any student, however, may enroll for any course if he has completed the listed prerequisites.

1000-1999 freshman level.

2000-2999 sophomore level.

3000-3999 junior level.

4000-4999 senior level.

5000-5999 post baccalaureate and professional level.

6000-6999 graduate level.

Accounting

Offered in the Department of Accounting

2210. Accounting for Non-Business Majors (4)

A survey of accounting concepts designed for students desiring a general knowledge of accounting. Emphasis placed on the use and analysis of accounting data. Not open to students who have taken Acctg. 2251. Prerequisites: None. (A)

2251, 2252. Principles of Accounting I, II (4 each)

An introduction to accounting analysis and practice. Courses are sequential. Prerequisite: sophomore standing. (A)

2270. Introduction to Programming and Business Computer Systems (4)

Introduction to the uses of computers in business. Basic concepts, components and operation of computer systems. Flow charting, programming logic and source language programming. The interrelationship of people, machines, and business computer systems. Prerequisites: Acctg. 2252, or 2210, or consent of instructor. (A)

2701. Legal Environment of Business (4)

Legal setting in which business operates, with emphasis upon legal reasoning, processes of the law, contracts, agency, partnerships, and corporations. (A)

2702. The Uniform Commercial Code—California (4)

A continuation of the Legal Environment of Business, treating the Uniform Commercial Code in California: Personal Property—Sales, Negotiable Instruments, Secured Transactions. Prerequisite: Acctg. 2701. (A)

3200. Managerial Accounting (4)

Applied course with emphasis on the use of accounting information by management for decision-making purposes in the multi-goal firm. Prerequisite: Acctg. 2252, 2270, Math. 1801 or equivalent. Not open to students who have had Acctg. 3211-12-13 or 3231 or equivalent. (A)

3211, 3212, 3213. Intermediate Accounting I, II, III (4 each)

Accounting theory, practice, and problems. Balance sheets, income and other financial statements, working papers, valuation of assets, reserves, correction of statements, and sources and applications of funds. Courses are sequential and require a grade not lower than C to continue the sequence. Prerequisite: Acctg. 2252, with a grade not lower than C, and Acctg. 2270. (A)

3220. Federal Income Tax Accounting (4)

Fundamentals of individual income taxation. Emphasis on research using Internal Revenue Code, income tax regulations, and other reference materials used in researching tax issues. Prerequisite: Acctg. 2252. (A)

3231, 3232. Cost Accounting I, II (4 each)

Manufacturing accounting theory and problems, records and financial statements; elements of cost; elements of process, specific job order, and standard cost accounting. Emphasis on managerial use of cost data in the multi-goal firm. Courses are sequential and require a grade not lower than C to continue the sequence. Prerequisite: Acctg. 2252, with a grade not lower than C, Acctg. 2270, Math. 1802 or equivalent. (A)

3270. Business Computer Programming Applications (4)

Advanced business programming applications using COBOL. Report preparation and validation techniques. Mass-storage file management. Design, creation, and maintenance of sequential and random-access files. Term project involving approved topic of student interest. Prerequisites: Acctg. 2252 and 2270. (A)

4220. Advanced Federal Income Tax Accounting (4)

Federal income tax law involving corporations, partnerships, estates and trusts. Advanced research techniques with emphasis on analysis of tax laws with a view toward tax planning. Prerequisites: Acct. 3220. (Y)

4233. Advanced Cost Accounting (4)

Advanced cost accounting problems and theory. Selected topics from among the following: preparation and administration of budgets, design and maintenance of managerial control systems, and the quantitative analysis of specific problems. Prerequisite: Acctg. 3232. (Sp)

4240. Advanced Financial Accounting (4)

Advanced accounting problems and theory. Topics include parent and subsidiary accounting, pooling of interests, partnerships, foreign exchange, and other current issues. Prerequisite: Acct. 3212. Four hrs. lect. (A)

4250. Auditing (4)

Principles, techniques and procedures in auditing. Prerequisite: Acctg. 3213. (A)

4270. Accounting Information Systems (4)

Study of computer-oriented accounting information systems. The design, operation, and control of accounting information systems and the interface with the management decision-making process. Programming project involving application of course content to approved project of student interest. Prerequisites: Acctg. 2270, 3200 or 3232. (Y)

4271. Management of Information Systems (4)

Introduction to concepts of information theory, systems theory, and the systems approach in business decision making. Planning, implementation, administration and controls of management information systems. Prerequisites: Acctg. 3200 or 3232; Mgmt. 3100; and Mgmt. 3614. (Y)

4900. Independent Study (1-4)**4915. Internship in Accounting (1-4)**

Supervised work experience with a company, CPA firm, non-profit organization, or government agency in a department-approved program. See statement on Internship Credits page 175. Prerequisites: Vary according to agency or firm. (Y)

4920-4999. Directed Group Study (1-4)**5210. Survey in Financial Accounting (4)**

Concepts, principles and procedures of accounting. Preparation and interpretation of financial statements. Uses of economic information in the decision process. POST BACCALAUREATE STUDENTS ONLY. Not open to students for whom Principles of Accounting is required. (Y)

5211, 5212. Intermediate Financial Accounting I, II (4 each)

Intensive study of basic concepts, principles and procedures of financial accounting theory. Balance sheet, income statement, funds flow, corporation equity, compound interest concepts and disclosure in financial statements are included. Courses are sequential and require a grade not lower than C to continue. Open ONLY TO POST BACCALAUREATE STUDENTS. Prerequisites: Acct. 5210 or Acct. 2252 or equivalent with a grade not lower than C. (Y)

5230. Managerial Cost Accounting (4)

Theory and procedures of costing for manufacturing firms. Job order and standard cost systems; managerial uses of cost data; capital budgeting. POST BACCALAUREATE STUDENTS ONLY. Prerequisites: Acct. 5210 or Acct. 2252 or equivalent with a grade not lower than C. (Y)

GRADUATE COURSES

(See the Graduate Catalog for complete descriptions of the following courses.)

Acctg. 6211, 6212. Seminar in Accounting Theory I, II (4,4)**Acctg. 6220. Seminar in Income Taxes (4)****Acctg. 6233. Seminar in Administrative Accounting (4)****Acctg. 6250. Seminar in Advanced Auditing (4)****Acctg. 6270. Seminar in Information Systems (4)****Acctg. 6900. Independent Study (1-4)****Acctg. 6905. Individual Research (1)****Acctg. 6920-6999. Directed Group Study (1-4)****Anthropology**

Offered in the Department of Anthropology

INTRODUCTORY**1000. Introduction to Anthropology (4)**

The holistic study of man for non-majors: concepts of human evolution, prehistory, culture; comparison in human variation; structure and function in social organization; synthesis of biological, cultural, and social factors. Not open for credit to students who have completed Anth. 2300 or 3000 or equivalent. Four hrs. lect.; or 3 hrs. lect., 1 hr. disc. (F,W,Sp)

1920-1999. Directed Group Study (1-4)**2100. Principles of Biological Anthropology (4)**

Synthesis of present evidence about human evolution, primates, fossil man, race, and racial differences; the interconnections between biological and cultural aspects in human adaptation and development. Three hrs. lect., 1 hr. disc. (F, Sp, Su)

2200. Principles of Prehistory (4)

Introduction to the ideas, models, techniques used in recovery and interpretation of archeological materials; exemplification from both Old and New Worlds. (A)

2300. Principles of Cultural Anthropology (4)

Structure and dynamics of culture; invention, diffusion, social organization, value-systems. Orientation in human life ways. Designed for majors in anthropology. (A)

2800. Theory in Anthropological Linguistics (4)

Application of diverse theoretical descriptive models to materials from a variety of language families with emphasis on universals and typological variants. (A)

3000. Anthropology in the Modern World (4)

The relevance of anthropology to contemporary world problems and the great issues of mankind. An advanced general course in cultural anthropology. Four hrs. lect.; or 3 hrs. lect., 1 hr. disc. (A)

INTERMEDIATE-BIOLOGICAL ANTHROPOLOGY**3100. Human Evolution (4)**

The primate-human evolutionary record (fossils, comparative anatomy, physiology) in the light of modern synthetic theory based upon genetics, paleontology, systematics. Prerequisite: Anth. 2100, or Biol. 3020, or equivalent, and consent of instructor. (Y)

3110. Primate Social Behavior (4)

A survey course concerned with behavior of non-human primates both developmentally and phylogenetically. Emphasis will be placed on relationships between social structure and the environment. Prerequisite: Anth. 2100. (Y)

INTERMEDIATE-ARCHEOLOGY AND PREHISTORY**3200. Theory in Prehistory (4)**

Theories of culture origin, growth, and evolution; problems of invention, acceptance, and diffusion; meaning of archeological findings for human history; relationship of environment, technology, population size, and cultural complexity. Prerequisite: Anth. 2200. (Y)

3220. Prehistory of the Old World (4)

Origin, development, and distribution in space and time of the prehistoric cultures of Africa and Eurasia, with emphasis upon cultural efflorescence; ancient civilizations of southwestern Asia and the eastern Mediterranean. Prerequisite: Anth. 1000 or 2300 or 3000. (Y)

3230. Field Archeology (4)

General field techniques for data retrieval; ethno archeology, prehistoric and/or historic sites; analysis and interpretation. Prerequisite: Anth. 2200 or consent of instructor. (Y)

3240. Archeology of North America (4)

Prehistory of the Native Americans, north of Mexico. Ecologic adaptations and processes of culture growth as evidenced by archeological data. Prerequisite: Anth. 1000 or 2300 or 3000 or consent of instructor. (Y)

INTERMEDIATE-ETHNOLOGY**3300. World Ethnography (4)**

Review of selected diversified cultures from various areas of the world, providing a broad general appreciation, for comparative purposes, of the manifold ways in which man responds to and builds upon his differing environments. Prerequisite: Anth. 2300, or consent of instructor. (Y)

3330. Peasant Societies (4)

Comparative review of selected sedentary farming groups, including discussion of ancient and contemporary populations of Europe, Africa, Asia, the Pacific, and Latin America; the concept of peasantry. Prerequisite: Anth. 2300 or consent of instructor. (Y)

3350. Urban Anthropology (4)

Comparative study of the history, ethnography, and modern development and change in urban centers in industrial and non-industrial areas of the world. Prerequisite: Anth. 2300 or 3000 or consent of instructor. (Y)

INTERMEDIATE-SOCIO-CULTURAL ANTHROPOLOGY**3400. Social Anthropology (4)**

Structural-functional approach to the comparative study of human institutions, with emphasis upon kinship and family types throughout the world and their place within the total social structure. Prerequisite: Anth. 2300. Three hrs. lect., 1 hr. disc. (A)

3460. Culture and Personality (4)

The interplay of personality and cultural factors in human development; personality in various cultural settings; the "national character" concept. Prerequisite: Junior or senior standing; or consent of instructor. (Y)

INTERMEDIATE-REGIONAL ANTHROPOLOGY**3500. North American Indians (4)**

Native peoples and cultures of present-day Canada and the United States. Prerequisite: Anth. 1000 or 2300 or 3000; or a course in history or geography of North America. (Y)

3505. Indians of California (4)

Habitat, economy, society, arts, and beliefs of the native populations of California; of particular interest and value to prospective elementary teachers. Prerequisite: Anth. 1000 or 2300 or 3000. (Y)

3510. Ethnography of South America (4)

An analysis of past and present Indian and peasant cultures in the Caribbean and South America. Prerequisite: Anth. 1000 or 2300 or 3000; or a history or geography course on region; or residence in region and consent of instructor. (Y)

3515. Ethnography of Mexico and Central America (4)

An integrated description of the cultural history and present-day economic, social, political, and religious ways of life of Indian and mestizo groups in rural regions of Mexico and Central America; recent changes and modern trends in cultural development. Prerequisite: Anth. 1000 or 2300 or 3000; or a history or geography course on the region; or residence in region and consent of instructor. (Y)

3518. Ethnography of Mexican-American Peoples (4)

Analysis of culture history and present-day Mexican-American peoples, comprehending social organization, value-systems and related expressive forms realized in communication, art, and literature. Prerequisites: Anth. 1000 or 2300 or 3000; or a history or geography course in Mexican-American Studies; or consent of instructor. (Y)

3520. Ethnography of the Pacific Islands (4)

Cultural patterns and problems of the Pacific Island world; historical, political, economic background of Polynesia, Micronesia, and Melanesia; the future of these areas in the world scene. Prerequisite: Anth. 1000 or 2300 or 3000; or a history or geography course on the area; or residence in the area and consent of instructor. (Y)

3535. Ethnography of Southeast Asia (4)

Cultural patterns of Southeast Asia; comparative study of dominant populations and ethnic minorities; role in the contemporary world. Prerequisite: Anth. 2300, or history or geography course on region; or consent of instructor. (Y)

3540. Ethnography of Eastern Asia (4)

Cultural patterns and problems of China, Korea and Japan; comparative study of native populations, historical and cultural background of the national ethics; role in the contemporary world. Prerequisite: Anth. 1000 or 2300 or 3000; or a history or geography course on the area; or residence in the region and consent of the instructor. (Y)

3560. Ethnography of India (4)

Development of Indian cultural traditions, with emphasis upon social organization and its relation to the social problems of the peoples inhabiting the India subcontinent. Prerequisite: Anth. 1000 or 2300 or 3000; or a history or geography course on South Asia; or residence in region and consent of instructor. (Y)

3570. Ethnography of the Middle East (4)

Comparative study of peoples of the Middle East—Central Asia to Morocco. Culture, culture history, religion and social organization. Consideration of ecology, modernization, intercultural relations. Prerequisite: Anth. 1000 or 2300 or 3000; or a geography or history course on the region; or resident experience and consent of instructor. (Y)

3575. Ethnography of Africa South of Sahara (4)

A cultural survey of African peoples and cultures, with emphasis upon the tribal divisions, arts, industry, beliefs, and contemporary problems. Prerequisite: Anth. 1000 or 2300 or 3000; or history or a geography course on Africa; or residence in region and consent of instructor. (Y)

3590. Ethnography of Europe (4)

Analysis of major cultures of contemporary Europe: origins and evolution, social organization, life styles, value systems, and material culture. Implications of rural-urban differences, national and subnational identification, and culture contact. Prerequisite: Anth. 2300; or a history or geography course on region; or consent of instructor. (Y)

3595. Ethnography of the USSR (4)

Survey of the ethnic groups within the present borders of the USSR. Emphasis on ethnogenesis, ethnic processes and current ethnic policy. Genetic relations with groups outside the borders of the USSR. Prerequisite: Anth. 1000 or 2300 or 3000; or a history or geography course on USSR; or residence in region and consent of instructor. (Y)

INTERMEDIATE-SYMBOLIC ANTHROPOLOGY**3800. Principles of Symbolic Anthropology (4)**

Exploration of world view and implicit cultural premises as conveyed through symbolic forms of behavior. Analysis of the social functions of symbols both in American and other cultures. (Y)

3805. Field Course in Symbolic Anthropology (2)

Recording and analysis of symbolic anthropology data; may be taken concurrently with either Anth. 3800 (ethnology emphasis) or 3810 (linguistic emphasis). Prerequisite: Anth. 2800 or 3800. Four hrs. act. (Y)

3810. Techniques in Anthropological Linguistics (4)

Methodology of direct elicitation, transcription and description of spoken language and reconstruction of language history using published materials. Prerequisite: Anth. 2800. (Y)

3820. Folklore (4)

Introduction to and survey of oral literature, e.g., folktales, myths, legends, proverbs, riddles, etc., especially among non-literate peoples; methods and theories of folklore analysis and the use of folklore in studies of diffusion, social functions, world view, and religion. Prerequisites: Anth. 1000, or 2300, or 3000; or Anth. 2800. (Y)

3830. The Anthropology of Music (4)

Music of world's peoples from musicological and anthropological standpoints; emphasis on study of music in culture. Topics include: specialization, continuity and change, ecology, communication, function, music and dance, aesthetics. Prerequisite: Anth. 2300 or 3000. (Y)

3850. Cross-Cultural Study of Religion (4)

Origins, forms, elements, and symbolism of religion; the relative roles of magic, religion, and science in selected societies. Prerequisite: Anth. 2300 or consent of instructor. (Y)

ADVANCED-BIOLOGICAL ANTHROPOLOGY**4120. Human Variation (4)**

Analysis of the processes of morphological variation in man; origin, evolution, distribution, and relationships of extinct and living racial populations; the nature of racial differences. Prerequisite: Anth. 3100, or upper-division status as a biology major and consent of instructor. (Y)

4130. Fossil Man (4)

Origin and relationships of the fossil hominids; examination and determination of evolutionary trends in the parts and in the whole of the skeletal structure; consideration of functional interrelationships of the parts, with changes leading to the condition of modern man. Prerequisite: Anth. 3100. (Y)

ADVANCED-ARCHEOLOGY AND PREHISTORY**4230. Invention and Technology (4)**

Material artifacts as embodiment of cultural processes: innovation, acceptance, rejection, modification, manufacture, decoration, trade; influence of basic technological inventions. Prerequisite: Anth. 2200 or 3200. (Y)

4245. Experimental Archeology (5)

Field and laboratory experience in recovery and analysis of archeological data; work on prehistoric and/or historic sites, or simulated sites. May repeat once for credit in laboratory format. Prerequisites: Anth. 3230 (and for repeat, consent of instructor). (Y)

ADVANCED-SOCIO-CULTURAL ANTHROPOLOGY**4310. Field Course in Ethnography (5)**

Securing, recording, ordering, and analysis of cultural data; problems of participant observation and eliciting information from informants; methods of data collection. Prerequisite: one course in Anth. 3300 or 3400 or 3500 series. One hr. lect., 8 hrs. act. (field work all day Saturday or two afternoons per week). (Y)

4320. Problems of Sociocultural Comparisons (4)

Principles of controlled comparison in the study of sociocultural systems; determination of which, if any, forms of behavior are universal and which are restricted in occurrence; development of theories accounting for similarities and variations. Prerequisite: Anth. 2300 or 3400. (Y)

4330. Culture Change (4)

Tradition versus the dynamics of change; socio-cultural and psychological barriers to change; stimulants for change; innovation and its acceptance; the ethics of planned change; technical aid and social science. Prerequisite: one 3000-level course in anthropology. (Y)

4340. Anthropology and Law (4)

Comparison of systems of law and conflict resolution; conflicts between individuals or groups, and resolution or non-resolution in different non-industrial societies such as the African; structural-functional view of law and conflict in the total social environment. Prerequisites: Anth. 3400 or 4830. (Y)

4420. Cross-Cultural Studies in Child-Rearing (4)

Infancy, childhood, adolescence; the process of enculturation considered cross-culturally. Prerequisites: Junior or senior standing or consent of instructor. (Y)

4440. Political Anthropology (4)

Comparative study of political institutions and processes in non-industrial, primarily small scale tribal and peasant societies and communities. Political ethnography; methodology, analysis, and theory. Prerequisites: Anth. 3400, 4340, or consent of instructor. (Y)

4450. Cultural Ecology (4)

The articulation of technology and physical-biotic environment within the scope of socio-cultural systems; balance or harmony in man-land relations; growth of ecological thought to include human activity. Prerequisite: Anth. 2300 or Geog. 2300. Cross-listed with Geog. 4450. (Y)

ADVANCED-REGIONAL ANTHROPOLOGY**4500. The American Southwest (4)**

Examination of reasons for, and processes of, cultural change as these are reflected in ecology, technology, social organization and ideology from antiquity to the present in the American Southwest. Prerequisites: Anth. 2200 or 2300. (Y)

4510. Comparative Study of Arid Land Habitats (4)

The varying interpretations and utilizations of arid and semi-arid environments by different cultural groups at different times and places; problems of human adaptation to dry lands. Prerequisite: One of Anth. 3510, 3515, 3570, or 4500, Geog. 3510, 3515, or 3530. Cross-listed with Geog. 4510. (Y)

4550. Asian-American Peoples and Cultures (3)

Comparative study of Chinese, Japanese, Filipino, Indian and other Asian variants of cultural configuration in the United States, with particular reference to California. Concurrent enrollment required in one of the following: Anth. 4555, 4556, or 4557. Prerequisite: one of the following: Anth. 3530, 3540, 3550, or 3560. (Y)

4555. Fieldwork (1)

Supervised fieldwork; emphasis on examination of changing cultural patterns in conjunction with emergent values and behavioral contexts among Southeast Asian Americans. To be taken in conjunction with Anth. 4550. Three hrs. fieldwork each week. (Y)

4556. Fieldwork (1)

Supervised fieldwork; emphasis on examination of changing cultural patterns in conjunction with emergent values and behavioral contexts among East Asian Americans. To be taken in conjunction with Anth. 4550. Three hrs. fieldwork each week. (Y)

4557. Fieldwork (1)

Supervised fieldwork; emphasis on examination of changing cultural patterns in conjunction with emergent values and behavioral contexts among South Asian Americans. To be taken in conjunction with Anth. 4550. Three hrs. fieldwork each week. (Y)

ADVANCED-HISTORY OF ANTHROPOLOGY**4600. Growth of Anthropological Thought (4)**

History and philosophy of anthropology; its place among the sciences and the humanities; schools of thought, with emphasis upon the respective contributions and contrasting viewpoints of eminent anthropologists of America, Australasia, and Europe. Prerequisite: senior standing; completion of three upper division anthropology courses, or consent of instructor. (Y)

ADVANCED-SPECIAL INTEREST**4700. Anthropology and Education (4)**

Examination of education as enculturation in non-Western cultural settings and the role of anthropology in modifying educational institutions in various societies. Prerequisite: Junior or senior standing or consent of instructor. (Y)

4710. Anthropology and Museum Methods (4)

The anthropologist in the museum profession; problems of the curatorial role: acquisition, identification, recording, repair and preservation, informational texts and display of ethnological and archeological materials. Prerequisite: Anth. 2200 or 2300, or consent of instructor. Two full day fields trip required. (Y)

4720. Anthropology and Medicine (4)

The ecology of health, magical beliefs, and medicine; public health and medical problems as affected by cultural differences; the effects of acculturation upon mental and physical health. Prerequisite: Junior or senior standing or consent of instructor. (Y)

ADVANCED-SYMBOLIC ANTHROPOLOGY**4810. Ethnosemantics (4)**

Correlation of the semantic or meaning component of language with other cultural systems. Emphasis on analysis of lexical sets and translation. Prerequisite: Anth. 2800. (Y)

4820. Sociolinguistics (4)

Correlation of linguistic diversity with social roles and social structures. Language in relation to education, national development and social usage. Problems of bilingualism. Prerequisite: Anth. 2800. (Y)

4830. Value Systems and World Views (4)

Comparison and analysis of ideology in the cultures of non-literate peoples; socially standardized beliefs about the supernatural, the universe, nature of man, and human relations; beliefs which provide the motivations and guides to behavior. Prerequisite: Anth. 2300 or 3000, or major or minor in philosophy. (Y)

4840. Shamanism (4)

The art, techniques, and functions of shamanism are reviewed in various societies. Historical, psychological, sociological and philosophical and aesthetic aspects of shamanism are considered. Prerequisite: Anth. 2800 or consent of instructor. (Y)

ADVANCED-SPECIAL PROGRAMS**4900. Independent Study (1-4)****4910. Pro-Seminar in Anthropology (4)**

Seminar in anthropological literature, research aids, and source materials. (Y)

4920-4999. Directed Group Study (1-4)**GRADUATE COURSES**

(For detailed descriptions of the following courses, see the *Graduate Catalog*.)

Anth. 6000. Seminar in Anthropological Theory and Methods (4)**Anth. 6010. Advanced Seminar: Research Frontiers and Philosophy of Anthropology (3)****Anth. 6100. Seminar in Biological Anthropology (3)****Anth. 6110. Advanced Seminar in Biological Anthropology (3)****Anth. 6200. Seminar in Archaeology/Prehistory (3)****Anth. 6210. Advanced Seminar in Archaeology/Prehistory (3)****Anth. 6300. Seminar in Regional Ethnology (3)****Anth. 6310. Advanced Seminar in Regional Ethnology (3)****Anth. 6400. Seminar in Socio-Cultural Anthropology (3)****Anth. 6410. Advanced Seminar in Socio-Cultural Anthropology (3)****Anth. 6500. Seminar in Anthropological Linguistics (3)****Anth. 6510. Advanced Seminar in Anthropological Linguistics (3)****Anth. 6900. Independent Study (1-4)****Anth. 6910. Thesis Research (1-6)****Anth. 6920-6999. Directed Group Study (1-3)**

Art

Offered in the Department of Art

1010. The Idea of Art History (5)

An examination of style in the visual arts and factors which influence the nature of art in selected salient periods of art history. Four hrs. lect., 1 hr. disc. (A)

1110. Art I: Concepts, Perceptions and Expression in the Visual Arts (5)

An orientation to the field: conceptualization and perception as generative and critical framework for expression. Studio projects, in two and three dimensions. Required prerequisite for most art courses. Required of all majors. Two hrs. lect., 6 hrs. act. (A)

1120. Art II: Concepts, Perceptions and Expression in the Visual Arts (5)

The principles of form, color, abstraction, and composition. Concentration on two-dimensional work. Prerequisite: Art 1110 or approval of instructor. Two hrs. lect., 6 hrs. act. (A)

1130. Art III (5)

Spatial problems in line, plane, and volume, and their interrelationship with texture and color. Concentration on 3-dimensional work. Prerequisite: Art 1120 or approval of instructor. Two hrs. lect., 6 hrs. act. (A)

1140. Drawing I (5)

Problems in drawing: line, volume, and motion. Prerequisite: Art 1120 or equivalent. Two hrs. lect., 6 hrs. act. (A)

1920-1999. Directed Group Study (1-5)

2000. Art in the Western World: Primitive to 1000 A.D. (5)

A survey of western art from prehistoric times to the eleventh century. Individual study visits to museums required. Four hrs. lect., 2 hrs. act. (F)

2001. Art in the Western World: 1000 to 1700 (5)

A survey of western art from the eleventh to the eighteenth centuries. Individual study visits to museums required. Four hrs. lect., 2 hrs. act. (W)

2002. Art in the Western World: 1700 to the Present (5)

A survey of western art from the eighteenth century to the present. Individual study visits to museums required. Four hrs. lect., 2 hrs. act. (Sp)

2010. Black Visual Arts Seminar (5)

The genesis and nature of Blackness in Afro-American art. Seminar reports and discussions developed from individual research. Visits to artists' studios and exhibitions. Cross-listed with Bl. St. 2010. (Y)

2601. Creative Photography I (5)

The development of photographic thinking abilities useful in the fields of art and environmental studies.* Two hrs. lect., 6 hrs. act. (Y)

2701. Film Studies of Art and Artists (5)

Using sound and animating stills the students will make, individually and in groups, films of art and artists. Students will furnish their own cameras and build editing equipment. Two hrs. lect., 6 hrs. act. (Y)

* Film processing is not included—students will use their own film and their own cameras.

3041. Art of the Ancient Near East (5)

The evolution of art in Egypt and the Near East from prehistoric times to the appearance of early Greek civilization. Individual study visits to museums required. Prerequisites: five units of lower-division art history. Four hrs. lect., 2 hrs. act. (Y)

3042. Art of Greece and Rome (5)

The development of Greek and Roman art from the Minoan period through the Age of Constantine. Individual study visits to museums required. Prerequisites: Four units of lower-division art history. Four hrs. lect., 2 hrs. act. (Y)

3050. Medieval Art History (5)

The nature of European art from early Christian times to the 15th Century. Individual study trips to museums required. Four hrs. lect., 2 hrs. act. (Y)

3061. Italian Renaissance Art (5)

The nature of early and high Renaissance art in the Italian peninsula. Individual study visits to museums required. Prerequisites: five units of lower-division art history. Four hrs. lect., 2 hrs. act. (Y)

3062. Northern Renaissance Art (5)

The nature of Renaissance art in France, Germany, and the Lowlands. Individual study visits to museums required. Prerequisites: five units of lower-division art history. Four hrs. lect., 2 hrs. act. (Y)

3063. Baroque and Rococo Art (5)

The nature of European art in the seventeenth and eighteenth centuries. Individual study visits to museums required. Prerequisites: five units of lower-division art history. Four hrs. lect., 2 hrs. act. (Y)

3071. Nineteenth Century Art (5)

European art from Neo-Classicism to Impressionism. Individual study visits to museums required. Prerequisites: five units of lower-division art history. Four hrs. lect., 2 hrs. act. (Y)

3072. Twentieth Century Art (5)

The development of the European art of this century from Post-Impressionism to the present. Individual study visits to museums required. Prerequisites: five units of lower-division art history. Four hrs. lect., 2 hrs. act. (A)

3073. Art in the United States (5)

The development of art in the United States from the colonial period to the present. Individual visits to museums required. Prerequisites: five units of lower-division art history. Four hrs. lect., 2 hrs. act. (Y)

3074. Modern Architecture (5)

A survey of the new architectures of the industrial age from the 18th century to the present. Four hrs. lect., 2 hrs. act. (Y)

3075. The Machine and Modern Art (5)

Critical survey of new art forms and functionalist aesthetics in the technological age, including industrial design and other unprecedented disciplines. Four hrs. lect., 2 hrs. act. (Y)

3141. Drawing II (5)

Principles of figure drawing. Prerequisites: Art 1140 or prior consent of instructor. Two hrs. lect., 6 hrs. act. (A)

3142. Drawing III (5)

Concepts and techniques of drawing. Emphasis on individual expression in various drawing media. May be repeated once for credit with consent of instructor. Prerequisite: Art 3141. Two hrs. lect., 6 hrs. act. (Y)

3143. Drawing IV (5)

Figure drawing. Emphasis on individual expression in various drawing media. May be repeated once for credit with consent of instructor. Prerequisite: Art 3141. Two hrs. lect., 6 hrs. act. (Y)

3211. Painting I (5)

Fundamentals of painting. Emphasis on basic problems of painting and composition. Study of techniques and processes. Prerequisite: Completion of lower division art major requirements. Two hrs. lect., 6 hrs. act. (A)

3212. Painting II (5)

Concepts of painting. Emphasis on individual expression and critical analysis. Prerequisite: Art 3211. Two hrs. lect., 6 hrs. act. (A)

3213. Painting III (5)

Emphasis on individual expression and critical analysis including studies in optional media. Prerequisite: Art 3211, 3212. Two hrs. lect., 6 hrs. act. May be repeated once for credit with consent of instructor. (Y)

3311. Sculpture: Introduction (5)

An introduction to basic concepts, materials, and processes of sculpture; includes drawing for sculpture. Prerequisite: completion of lower-division art major requirements. Two hrs. lect., 6 hrs. act. (A)

3312. Sculpture: Direct Metal (5)

Sculpture employing direct metal techniques with ferrous and non-ferrous metals. Prerequisite: Art 3311. Two hrs. lect., 6 hrs. act. May be repeated once for credit with consent of instructor. (Y)

3314. Sculpture: Plastics (5)

Sculpture using thermoplastic and thermosetting plastics in construction, lamination, mold-making and vacuum forming. Course may be repeated once for credit. Prerequisite: Art 3311. Two hrs. lect., 6 hrs. act. (Y)

3315. Sculpture: Casting: Metals (5)

Sculpture: Modeling, moldmaking and casting with non-ferrous metals. Course may be repeated once for credit. Prerequisite: Art 3311. Two hrs. lect., 6 hrs. act. (Y)

3316. Sculpture: Casting: Plastics (5)

Sculpture: Modeling, moldmaking and casting with plastics. Course may be repeated once for credit. Prerequisite: Art 3311, Two hrs. lect., 6 hrs. act. (Y)

3317. Sculpture: Casting: Hydraulic Materials (5)

Sculpture employing modeling and moldmaking and casting in hydraulic materials (cements, aggregates). Course may be repeated once for credit. Prerequisites: Art 3311. Two hrs. lect., 6 hrs. act. (Y)

3511. Ceramics I (5)

An introduction to the basic techniques of construction with clay. Prerequisite: completion of lower-division art major requirements. Two hrs. lect., 6 hrs. act. (A)

3512. Ceramics II (5)

Advanced course in various building and forming processes in ceramics, including investigation of glazes and clay bodies. Prerequisite: Art 3511. Two hrs. lect., 6 hrs. act. (A)

3513. Ceramics III (5)

Emphasis on personal direction in ceramics. Prerequisite: Art 3512. Two hrs. lect., 6 hrs. act. May be repeated twice for credit with consent of instructor. (Y)

3521. General Crafts I (5)

Experience in the processes of the crafts utilizing wood, plastic, metal, leather and fabric. Prerequisites: Completion of lower-division art major requirements. Two hrs. lect., 6 hrs. act. (A)

3522. General Crafts II (5)

Experience in the processes of the crafts, utilizing wood, plastic, metal, leather, and fabric. May be repeated once for credit. Prerequisite: Art 3521. Two hrs. lect., 6 hrs. act. (A)

3531. Hot Glass Workshop (5)

Off hand glassblowing; forming experimental work with heated sheet glass, clear and stained. Prerequisites: Completion of lower-division art major requirements or consent of instructor. Two hrs. lect., 6 hrs. act. (Y)

3532. Cold Glass Workshop (5)

Work with stained and clear glass in two and three dimensions using lead came and epoxies. Prerequisites: Completion of lower-division art major requirements or consent of instructor. Two hrs. lect., 6 hrs. act. (Y)

3601. Creative Photography II (5)

Photography as a tool in art. Students will use an experimental approach to materials and processes for the visualization of creative ideas. Prerequisites: Art 2601 and MCom. 2700. Two hrs. lect., 6 hrs. act. (Y)

4001. Seminar in Contemporary Art Criticism (4)

Criticism of contemporary art. Emphasis on critical awareness and the expression of ideas. Prerequisite: Senior standing. (A)

4040. The Art of China (5)

The evolution of Chinese art from the Shang Dynasty to the Ming Dynasty. Individual study visits to museums required. Four hrs. lect., 2 hrs. act. (Y)

4050. The Art of India (5)

The evolution of art in India from the time of the Indus Valley civilization to the Mughal Dynasty. Individual study visits to museums required. Four hrs. lect., 2 hrs. act. (Y)

4061. The Ancient City as Art (5)

Study of the form and design of cities as collective works of art, from the origins of urban civilization in the Ancient Near East, to Athens, Rome, and Constantinople. Prerequisite: junior standing. Four hrs. lect., 2 hrs. act. (F)

4062. Medieval, Renaissance and Baroque Cities as Art (5)

Study of the form and design of European cities, including Paris, London, Venice, and Florence, as well as Utopian theory and planning, from the 11th to the 18th centuries. Prerequisite: junior standing. Four hrs. lect., 2 hrs. act. (W)

4063. The Modern Metropolis as Art (5)

Study of the form, design, and unprecedented planning problems of cities of the industrial age, with special emphasis on Chicago and Los Angeles. Prerequisite: junior standing. Four hrs. lect., 2 hrs. act. (Sp)

4090. Seminar in Art History (5)

Selected problems in art history. Reports and discussion developed from research by students and instructor. Required study visits to museums and exhibitions. May be taken twice for credit. Prerequisites: 15 units of upper-division art history and consent of instructor. (Y)

4110. Optional Media (5)

Exploration of materials and processes in two dimensions. Emphasis on individual expression and critical analysis. Prerequisite: Senior standing. Two hrs. lect., 6 hrs. act. (Y)

4310. Foundations of Artistic and Aesthetic Growth (4)

Relationship of art experience for young children in intellectual, social and emotional growth through communication and self-expression in varied art media. Emphasis on use of materials and expressive skills designed to encourage and understand the creative expression of young children. Prerequisite: senior or graduate standing or consent of instructor. Two hrs. lect., 4 hrs. act. (A)

4521. Jewelry (5)

Design and execution of simple jewelry, flatware, and hollow-ware, involving the use of silver, gold, copper, and brass. Approval of instructor required. Two hrs. lect., 6 hrs. act. (Y)

4533. Sculpture: Various Media (5)

Projects combining various materials such as wood, metals, plastics, fluids, fabrics, stone, etc. Prerequisites: Any two of: Art 3312, 3314, 3315, 3316, 3317. Two hrs. lect., 6 hrs. act. May be repeated once for credit with consent of instructor. (Y)

4611. Printmaking: Serigraphy (5)

Screen printing. Study of traditional processes in Serigraphy. Prerequisite: completion of lower-division major requirements. Two hrs. lect., 6 hrs. act. May be repeated once for credit with consent of instructor. (Y)

4612. Printmaking: Lithography (5)

Study of traditional processes in lithography. Prerequisite: completion of lower-division art major requirements. Two hrs. lect., 6 hrs. act. May be repeated once for credit with consent of instructor. (Y)

4613. Printmaking: Intaglio (5)

Study of traditional plate-making techniques. Prerequisite: completion of lower-division art major requirements. Two hrs. lect., 6 hrs. act. May be repeated once for credit with consent of instructor. (Y)

4630. Calligraphy (5)

The practice of calligraphy, with a study of historical styles. Prerequisite: approval of instructor. Two hrs. lect., 6 hrs. act. (Y)

4650. Gallery Exhibition and Design (4)

A gallery workshop covering the planning, design, publicity, and installation of art exhibits. May be repeated once for credit. Prerequisites: Art 1110, 1120, 1130 or consent of instructor. Two hrs. lect., 6 hrs. lab. (F,W,Sp)

4655. Visual Communication I (5)

The graphic symbol as a means of communication. Theory of symbols. Symbolic properties of form. Conceptual and visual requirements of symbols. Prerequisite: completion of lower-division art major requirements. Two hrs. lect., 6 hrs. act. May be repeated once for credit with consent of instructor. (Y)

4656. Visual Communication II (5)

The graphic symbol as a means of communication. Symbolic systems as representation of complex developmental data. Data analysis and synthesis as basis for explanatory and comparative symbolic structures. Prerequisite: junior standing. Two hrs. lect., 6 hrs. act. May be repeated once for credit with consent of instructor. (Y)

4683-4693. Advanced Studio Practice (5 each)

Studies in optional media to clarify the student's attitude, motivation, and personal direction as an artist. May be repeated once for credit with approval of instructor. Two hrs. lect., 6 hrs. act. (Y)

4683. ASP: Ceramics

4689. ASP: Optional Media

4684. ASP: Crafts

4690. ASP: Painting

4685. ASP: Drawing

4691. ASP: Printmaking

4686. ASP: Glass

4692. ASP: Sculpture

4687. ASP: Intaglio

4693. ASP: Serigraphy

4688. ASP: Lithography

4900. Independent Study (1-4)

4920-4999. Directed Group Study (1-4)

5320. Strategies and Materials for the Development of Visual Expression (4)

Introduction to the perceptual, aesthetic, and creative development of children. Studio experiences for prospective teachers of upper elementary art. Prerequisite: senior or graduate standing or consent of instructor. Two hrs. lect., 4 hrs. act. (A)

5350. Special Studies in the Teaching of Art (3)

Fundamentals of teaching art in the secondary schools. Study of approved practices of art education at this level. Required of all secondary credential candidates in art. Prerequisite: senior or graduate standing or consent of instructor. Two hrs. lect., 2 hrs. act. (A)

5900. Independent Study (1-4)

5920-5999. Directed Group Study (1-5)

Asian Cultures: South Asia

Offered by the Committee on South Asian Studies

3011. Patterns of South Asian Cultures (4)

Introduction to the study of South Asia (India, Pakistan, Sri Lanka, and Bangladesh) as approached by various disciplines; physical, demographic, social, historical, philosophical, with an emphasis on artistic patterns. Not open to students who have taken Asia 2011. (F)

3012. Development of Traditional South Asian Cultures (4)

The continuing development of major cultural traditions in South Asia through the Mughal period. Not open to students who have taken Asia 2012. (W)

3013. South Asian Cultures in the Modern World (4)

European expansion and influence in South Asia; contemporary political and economic problems; the process of modernization. Not open to students who have taken Asia 2013. (Sp)

3030. South Asian Folklore (4)

Definitions, forms, and functions of folklore, with particular emphasis upon oral literatures of South Asia, discussed in the light of various approaches to folklore scholarship. Prerequisite: Anth. 1000 or 2300, or 3000, or Engl. 2030. (Y)

1284-30 3 610

Astronomy

See Physics, page 359

Biological Science

Offered in the Department of Biological Science

NOTE: The Biological Science courses are listed in this catalog according to the following number coding system:

1st digit—course level

1—freshman

2—sophomore

3—junior

4—senior

5—post-baccalaureate, not for master's credit

6—graduate

2nd digit—biological category

0—courses primarily for the non-major

1—general biology

2—botany

3—entomology

4—microbiology

5—zoology

6—techniques

8—seminar

9—-independent study, DGS, and thesis

3rd digit—course number

4th digit—sequence courses

COURSES DESIGNED FOR THE BIOLOGICAL SCIENCE MAJOR

1101, -2, -3. Foundations of Biological Science (5, 5, 5)

Biol. 1101: Introduction to molecular and cellular biology with emphasis on the integration of structure and function in the living cell as a biological system; cellular aspects of inheritance. Prerequisite: one year of high school chemistry or concurrent registration in Chem. 1100 or 1101. Four hrs. lect., 3 hrs. lab. (Sp)

Biol. 1102: An introduction to animal biology with emphasis on relationship of structure and function in animals, principles of classification and ecology, and a brief survey of the animal kingdom, including evolutionary relationships. Four hrs. lect., 3 hrs. lab or field. (W)

Biol. 1103: An introduction to plant biology with emphasis on relationship of structure and function in plants. principles of classification and ecology, and a brief survey of the plant kingdom, including evolutionary relationships. Prerequisite: Four hrs. lect., 3 hrs. lab. or field. (F)

1920-1999. Directed Group Study (1-4)

3110. Principles of Ecology (4)

Relationships within and among populations in various environments; introduction to population dynamics and species interactions in complex communities and ecosystems; applications to man's welfare. Prerequisites: Biol. 1101-2-3 and Math. 1130 or equivalents; one quarter of either college chemistry or college physics. Three hrs. lect., 3 hrs. lab. and/or field trips (some weekends). (F,Sp,Su)

3120. Principles of Genetics (4)

Physical basis of inheritance, probability, gene structure and function, genes in development, genes in populations. Prerequisites: Biol. 1101-2-3 or equivalents. Four hrs. lect. (A)

3125. Genetics Laboratory (2)

Analysis of selected problems in transmission genetics, gene action, mutation, biochemical and population genetics, using a variety of organisms. Prerequisites: genetics, Biol. 3120 or concurrently; and Chem. 1103. Six hrs. lab. (On demand)

3130. Principles of Evolutionary Biology (4)

A survey of the basic processes involved in the evolution of natural populations. The systematic and phylogenetic implications of evolutionary change will also be considered. Prerequisite: Biol. 1101-2-3 and 3120 or equivalent. Four hrs. lect. (F,W,Sp)

3140. Principles of Developmental Biology (4)

Basic processes of fertilization, growth, determination, differentiation, induction, and morphogenesis as exemplified in microorganisms, plants, and animals at the molecular, cellular, tissue, and organismic levels. Prerequisites: Biol. 1101-2-3 and Chem. 1101-2-3, or equivalents; organic chemistry recommended. Three hrs. lect., 3 hrs. lab. (F,Sp)

3150. Principles of Physiology (4)

Introduction to current views on the various physiological functions such as transport, respiration, nutrition, excretion, sensory reception, and nervous and hormonal systems. Concepts of these functions derived from plant and animal forms. Prerequisites: Biol. 1101-2-3, Chem. 2301-2. Three hrs. lect., 3 hrs. lab. (W,Sp,Su)

3201. Morphology of Algae and Fungi (4)

A comparative study of structure, development and phylogeny of algae and fungi. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab. (F)

3202. Morphology of Archegoniates (4)

A comparative study of structure, development and phylogeny of bryophytes, club mosses, horsetails, and ferns. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab. (W)

3203. Morphology of Seed Plants (4)

A comparative study of structure, development and phylogeny of seed plants. Prerequisites: Biology 1001-2-3 or equivalent. Two hrs. lect., 6 hrs. lab. (Sp)

3210. Woody Plants of California (4)

Recognition, distribution, and ecological characteristics of native and introduced trees and shrubs of California. Prerequisites: Biol. 1103 or 2030. Two hrs. lect., 6 hrs. lab. or field trips and/or weekend field trips. (On demand)

3405. Microbiology (6)

The general biology of major groups of microorganisms, including their morphology, metabolism, reproduction, genetics and ecology. Prerequisites: Biol. 1101-2-3 or equivalent, organic chemistry. Four hrs. lect., 6 hrs. lab. (F, Sp)

3410. Epidemiology (2)

The ecology and demography of human diseases and disorders. Prerequisite: Biol. 3405 or equivalent. Two hrs. lect./disc. (Y)

3420. Medical Mycology (4)

Study of fungi which may cause disease in man and lower animals. Prerequisite: Biol. 3405. Two hrs. lect., 6 hrs. lab. (Y)

3430. Hematology (4)

Morphology, function and composition of mammalian blood fluids and cells, both normal and diseased. Prerequisites: Biol. 1101-2-3 and two quarters of organic chemistry. Two hrs. lect., 6 hrs. lab. (Y)

3440. Medical Parasitology (4)

Study of protozoa and metazoa important in the pathogenesis of human diseases, including pathology, immunology and epidemiology, as well as life cycles and laboratory identification of the parasites. Prerequisite: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab. (Y)

3505. Comparative Vertebrate Histology (5)

Study of the microscopic structure of representative vertebrate organisms with emphasis on the distribution and histogenesis of tissues within the major taxonomic groups. Prerequisites: Biol. 1101-2-3 or equivalent. Three hrs. lect., 6 hrs. lab. (F)

3520. Systematic Paleontology (4)

Morphology, paleoecology, evolution, classification, and geologic significance of fossil organisms including monerans, protists, fungi, invertebrate and vertebrate animals, and plants. Cross-listed with E.Sci. 3520. Prerequisites: E.Sci. 2201 or Biol. 1103. Two hrs. lect., 6 hrs. lab. (W)

3521, -2. Invertebrate Zoology (5 each)

The advanced study of the anatomy, embryology, physiology, systematic relationships and evolution of invertebrate groups, excluding insects. Biol. 3521: Protozoa through Annelida. Biol. 3522: Mollusca through Echinodermata. Prerequisites: Biol. 1101-2-3 or equivalent; Biol. 3521 is prerequisite to Biol. 3522. Three hrs. lect., 6 hrs. lab. and/or field trips. (W, Sp)

3560. General Embryology (5)

Morphology of vertebrate development, with experimental analysis of basic mechanisms. Laboratory emphasis on organogenesis in amphibian, bird, and mammal. Prerequisites: Biol. 1101-2-3 or equivalent, and Biol. 3140. Three hrs. lect., 6 hrs. lab. (W)

3570. Vertebrate Anatomy (5)

Gross and microscopic structure of representative vertebrates, emphasizing the evolutionary history of the major organ systems. Prerequisite: general embryology or consent of instructor. Three hrs. lect., 6 hrs. lab. (F)

3580. Vertebrate Natural History (5)

The natural history of fishes, amphibians, reptiles, birds, and mammals, including the ecology, behavior and physiology of these forms, plus field and laboratory work in the identification and techniques of study of living vertebrates. Prerequisites: Biol. 1101-2-3 or equivalent. Three hrs. lect., 6 hrs. lab., field trips. (F, alt. yrs.)

4105. Introduction to Taxonomy (3)

Principles and practice of botanical and zoological classification. Exercises on determination of availability and validity of scientific names, use of data, evaluation of type designation and other taxonomic determinations. Prerequisite: one upper division course in vertebrate or invertebrate zoology or botany. One hr. lect., 6 hrs. lab. (Tent. W)

4115. Marine Biology (4)

Local marine organisms, with emphasis on structural and functional adaptations to the sea as a specialized environment. Prerequisites: one year of college biological science which includes a survey of the animal kingdom. Two hrs. lect., 6 hrs. lab., field trips. (W, Su)

4125. Limnology (3)

Principles of fresh-water biology; an introduction to the physical, chemical, and biological features of inland waters which determine their biological productivity. Prerequisites: Biol. 3110 or equivalent, general chemistry, and permission of instructor; a course in taxonomy recommended. Three hrs. lect. (Su)

4126. Limnological Methods (3)

Techniques and practice in the study of fresh-water environments; emphasis on water chemistry, thermal cycles, distribution of aquatic biota. Field trips to local habitats. Prerequisites: Biol. 4125 (may be taken concurrently) and consent of instructor. Nine hrs. lab and/or field trips (some weekends). (Su or F)

4130. Biogeography (4)

Principles of the distribution of plants and animals; dispersal, change in geographic range, differentiation of local biotas, and relationships among adjacent and disjunct ecological communities. Prerequisites: Biol. 1000 or Biol. 1101-2-3 or equivalent. Four hrs. lect. (F)

4145. Problems and Practice of Conservation (4)

Field and laboratory approach to study of current environmental and ecological problems in California. Emphasis on man's impact on the environment. Topics to include resource management, air and water pollution, insecticide use, solid and liquid wastes. Prerequisite: Earth Sci. 4380 recommended. Two hrs. lect., 6 hrs. lab., or field trips. (F, Sp)

4155. Analysis of Development (4)

Advanced study of developmental phenomena and their causal analysis, based on biochemical, biophysical, and microsurgical techniques, with examples from the simplest to the most complex living systems. Prerequisites: Biol. 3150 and Biol. 3560 or equivalent. Four hrs. lect. (Y)

4160. Human Genetics (4)

Contributions to human genetics from biochemistry, immunology, cytology, pedigree analysis, population studies, and statistics. Prerequisite: Biol. 3120. Four hrs. lect./disc. (Sp)

4170. Cellular Physiology (5)

Living activities of cells and tissues, including nutrition, response, growth and reproduction; unique problems in different groups of organisms. Prerequisites: Biol. 1101-2-3 or equivalent; general chemistry and organic chemistry. Three hrs. lect., 6 hrs. lab. (On demand)

4180. Molecular Genetics (4)

Analysis of gene structure and theories of gene action. Information coding and transmission in genetic systems. Genetic mechanisms peculiar to microorganisms. Prerequisites: genetics, organic chemistry; microbiology recommended. Four hrs. lect. (W)

4190. Development of Biological Concepts (3)

The development of the major concepts in biology, using original writings of key figures from the Greeks to contemporary biologists. Prerequisite: senior or graduate standing as a biology major, or consent of the instructor. Two hrs. lect., 2 hrs. act. (Tent. F, Sp)

4200. Plant Taxonomy (4)

Principles of plant taxonomy. Field and laboratory studies of native seed plants. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab., field trips. (Sp or Su)

4210. Plant Anatomy (4)

A study of structure and development of plant tissues, emphasizing the anatomy of seed plants. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab. (F, alt. yrs.)

4225. Principles of Plant Physiology (5)

The life processes of the higher plants: soil and water relations, photosynthesis, metabolic activities, growth regulators, development and reproduction. Prerequisites: Biol. 1101-2-3 or equivalent. Three hrs. lect., 6 hrs. lab. (Sp)

4230. Economic Plants (4)

The significance of plants in the development of human culture. Prerequisites: Biol. 1000 or Biol. 1101-2-3 or equivalent. Three hrs. lect., 3 hrs. lab. and/or field trips. (F or Su)

4300. General Entomology (4)

Introduction to the anatomy, biology, ecology and identification of western insects; emphasis on local forms. Techniques of collecting, rearing and preserving insects. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab., field trips. (Su, F)

4310. Insect Identification (4)

Collection and preparation of specimens, classification of insects, principles of taxonomy, and entomological literature. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab., field trips. (Sp, alt. yrs.)

4320. Medical Entomology (4)

Insects and related arthropods as-transmitters of disease; public health problems arising from insects not transmitting disease. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab., field trips. (Sp, alt. yrs.)

4330. Agricultural Entomology (4)

The biology, ecology, identification, distribution and control of insects attacking agricultural crops and stored products. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab., field trips. (Su, alt. yrs.)

4410. Medical Microbiology (5)

The pathogenesis and mechanisms of infection of bacterial and mycotic diseases of man; isolation and identification of selected groups of microorganisms. Prerequisite: Biol. 3405. Three hrs. lect., 6 hrs. lab. (W)

4420. Virology (5)

General survey of plant and animal viruses, including pathogenesis, virus-host relationships, physical and chemical characteristics. Emphasis in the laboratory on biological activities of viruses. Prerequisite: Biol. 3405. Three hrs. lect., 6 hrs. lab. (F)

4430. Immunology and Serology (5)

Specific and nonspecific reactions in immunity; manifestations of antigen-antibody reactions, hypersensitivity and transplantation immunity. Prerequisite: Biol. 3405. Three hrs. lect., 6 hrs. lab. (Sp)

4440. Immunohematology (3)

Theories and techniques of blood banking, including all aspects of blood groups and transfusion. Prerequisite: Biol. 3120. Two hrs. lect., 3 hrs. lab. (Y)

4455. Microbial Physiology (5)

Growth, nutrition, metabolism and genetics of microorganisms with emphasis on bacteria. Prerequisites: general microbiology, organic chemistry, biochemistry, or permission of instructor. Three hrs. lect., 6 hrs. lab. (On demand)

4481-9. Medical Technology Seminar (1 each)

Discussion of current topics of medical technology, including social, ethical, and legal aspects. Prerequisites: senior standing and permission of the instructor. One hr. seminar disc. (Y)

4501, -2. Comparative Animal Physiology (5 each)

Physiological processes fundamental to invertebrate and vertebrate animals. Emphasis on their ability to cope with internal and external environmental changes. Prerequisites: Biol. 3150 or consent of the instructor. Three hrs. lect., 6 hrs. lab.

Biol. 4501: Physiology of nutrition, digestion, circulation, metabolism, excretion and endocrine systems. (F)

Biol. 4502: Physiology of integration of systems in the major animal phyla in relation to ecology and the evolution of physiological function. Prerequisite: Biol. 4501 or consent of instructor. (W)

4505. General Endocrinology (4)

Anatomy, physiology, and biochemistry of the endocrine system in vertebrate and invertebrate organisms. Prerequisite: Biol. 3150. Three hrs. lect., 1 hr. disc. (Y)

4515. Animal Ecology (4)

Interaction of environmental factors and animal populations treated singly and in communities, with practical experience emphasizing terrestrial types. Prerequisites: Biol. 1102 and 3110 or equivalents; Biol. 4300 or 4310 or a course in invertebrate zoology. Two hrs. lect., 6 hrs. lab. and/or field. (F)

4518. Animal Behavior (5)

Behavior patterns of animals; sensory adaptations, perception, orientation, imprinting instinct and learning, social and reproductive behavior; communication; emphasis on evolutionary relations. Prerequisites: Biol. 1101-2-3. Three hrs. lect., 6 hrs. lab./field. (Y)

4520. Invertebrate Embryology (4)

Developmental processes in marine invertebrate animals, with emphasis on classical problems of development including fertilization, segregation of morphogenetic substances and regeneration. Prerequisite: general embryology; invertebrate zoology. Two hrs. lect., 6 hrs. lab. (On demand)

4530. General Parasitology (4)

An introduction to parasitism; emphasis on the structure, physiology, life histories and pathology of parasitic animals other than arthropods. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab. (F)

4540. Protozoology (4)

The systematics, morphology, differentiation, physiology and genetics of the protozoa with laboratory emphasis on experimental approach. Prerequisites: completion of the Biological Sciences core program or consent of instructor. Two hrs. lect., 6 hrs. lab. (F, alt. yrs.)

4560. Evolutionary History of the Vertebrates (3)

A survey of the evolutionary history within the classes of vertebrates and discussion of the relationships between the classes. Prerequisites: Biol. 1101-2-3 and two of the five core *Principles* courses. Three hrs. lect., field trips. (W)

4570. Ichthyology (4)

The ecology, physiology, ethology, identification and evolution of the fishes of California and coastal waters. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab. and/or field trips. (W)

4575. Herpetology (4)

The ecology, physiology, ethology, identification and evolution of amphibians and reptiles with emphasis on western forms. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab., and/or field trips. (F, alt. yrs.)

4580. Ornithology (4)

The major adaptations and habits of birds, including sensory and behavioral limitations, flight, migration, nesting and distributional ecology; identification and taxonomy with field and laboratory work emphasizing western U.S. forms. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab., field trips. (Sp)

4585. Mammalogy (4)

The ecology, physiology, ethology, identification and evolution of mammals with emphasis on western forms. Prerequisites: Biol. 1101-2-3 or equivalent. Two hrs. lect., 6 hrs. lab., and/or field trips. (Su)

4610. Biological Illustration (3)

Instruction and practice in drawing vertebrates, invertebrates and plants; microscopic and cross-section views, external and internal structure, life cycles and systems. Experience in preparing maps, graphs and charts from scientific data. Prerequisite: Biol. 1000 or equivalent. One hr. lect., 6 hrs. lab. (W)

4620. Principles of Biological Instrumentation (4)

Basics of electronics and instrument systems; applications of physical measuring devices to biological preparations and laboratory work with basic circuits, systems and applications to study of live organisms. Prerequisite: Biol. 1101-2-3 and Introductory Physics. Two hrs. lect., 6 hrs. lab. (Y)

4630. Biological Photography (4)

Photography as an integral part of biological science. Photography of living plants and animals in laboratory and field. Macrophotography and photomicrography. Use of photography in research and in documenting scientific programs. Prerequisites: upper-division standing in science, Photo. 4500; or equivalent background. Two hrs. lect., 6 hrs. lab., field trips. (Y)

4801-9. Proseminar (2 each)

An undergraduate seminar providing an introduction to current topics in biological research. Topics will vary each quarter course is given. May be repeated for a maximum of 6 units total. Prerequisites: Senior standing and consent of instructor. Two hrs. sem./disc. (A)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)**

COURSES DESIGNED FOR THE NON-MAJOR
(Not Open for Biology Major Credit)

1000. Principles of Biology (5)

Plants and animals and the modern biological concepts that apply to their structure and function on both cellular and organismal levels. Special emphasis on man and his relationships with other living things. *Not for biology major credit.* Four hrs. lect., 1 hr. disc. (A)

2030. Survey of the Plant Kingdom (4)

General biology of the major plant groups, other than bacteria, stressing the fundamentals of classification, morphology, physiology and reproduction. Prerequisite: Biol. 1000 or equivalent. Not open to students who have completed the Biol. 1101-2-3 sequence. Three hrs. lect., 3 hrs. lab. (A)

2040. Survey of the Animal Kingdom (4)

Introduction to the anatomy, physiology, classification, and evolution of the major animal phyla. Prerequisite: Biol. 1000 or equivalent. Not open to students who have completed the Biol. 1101-2-3 sequence. Three hrs. lect., 3 hrs. lab. (A)

2061, -2. Anatomy and Physiology (4 each)

Introduction to structure and function of human systems. *Not for biology major credit.* Prerequisites: Biol. 1000, or Biol. 1101-2-3 or equivalent; one year of high school chemistry or Chem. 1100 or equivalent. Biol. 2061 is prerequisite to Biol. 2062. Three hrs. lect., 3 hrs. lab. (2061—W; 2062—Sp)

3000. Basic Physiology of the Cell (4)

Basic concepts of cellular physiology and molecular biology, including photosynthesis, respiration, and molecular aspects of genetics. *Not for biology major credit.* Prerequisites: Biol. 1000, Chem. 1100, and Phys. Sci. 1340 or equivalents. Three hrs. lect., 3 hrs. lab. (F)

3020. Genetics, Evolution, and Man (5)

Principles of genetics, their application to human problems, and to theories of evolutionary change, including the evolution of man. *Not for biology major credit.* Prerequisite: Biol. 1000 or equivalent. Five hrs. lect. (Tent. F, W)

3031. Nature Study (4)

Natural history in the field and laboratory, with emphasis on plants and animals. Prerequisite: basic course in biology. *Open for credit to biology majors on petition to the department.* Two hrs. lect., 6 hrs. lab. and/or field trips. (F, Sp)

3032. Nature Study (4)

Natural history in the field and laboratory, with topics from geology, meteorology, and astronomy. Prerequisite: basic course in physical science. Not open for credit to physical science majors. *Not open for biology major credit.* Two hrs. lect., 6 hrs. lab. and/or field trips. (W)

3040. Evolution of Sex (4)

The origin and evolution of sexual reproduction and reproductive behavior in the animal kingdom; emphasis on human sexuality. *Not for biology major credit.* Prerequisites: Biol. 1000 or equivalent or consent of instructor. Four hrs. lect. (W, Sp, Su)

3050. Animal Communication (4)

A survey of chemical, tactile, auditory, and visual communicative channels used by man and lower animals. *Not for biology major credit.* Prerequisites: Biol. 1000, or equivalent, or consent of instructor. Four hrs. lect. (W, Sp, Su)

4000. Modern Biological Concepts

Survey of the major conceptual schemes in biology as they are understood today. Potentials for the future. Prerequisites: Biol. 1000 or equivalent. *Not for biology major credit.* Four hrs. lect./disc. (Sp)

4005. Insects and Man (4)

Beneficial and harmful insects and related arthropods as important factors in human welfare. Specific emphasis is placed on ecological principles and socio-economic factors. Prerequisites: Biol. 1000, or Biol. 1101-2-3 or equivalent. *Not for Biology major credit.* Four hrs. lect. (W)

4010. Microbes and Man (4)

An analysis of man's struggle against disease from earliest times to the present, highlighting the economic, social, and scientific significance of the great diseases. *Not for biology major credit.* Prerequisites: Biol. 1000, or Biol. 1101-2-3 or equivalent. Four hrs. lect. (Sp)

4020. Field Natural History (4)

A survey of the fauna, flora and natural features of typical coast range biotic communities, followed by practice in conducting nature hikes and directing youth groups in nature activities. Prerequisite: Biol. 3031 or a biology field course or permission of instructor. Two hrs. lect., 6 hrs. lab. and/or field trips. (Su)

MARINE SCIENCE COURSES(See *Marine Sciences*, page 325, for the following courses)

MSc. 4102. **Marine Science Techniques (3)**

MSc. 4103. **Marine Ecology (4)**

MSc. 4105. **Marine Science Diving (3)**

MSc. 4106. **Scuba Marine Research (3)**

MSc. 4111. **Zoology of Marine Vertebrates (4)**

MSc. 4112. **Marine Birds and Mammals (4)**

MSc. 4113. **Marine Ichthyology (4)**

MSc. 4121. **Marine Invertebrate Zoology (4)**

MSc. 4122. **Marine Invertebrate Embryology (4)**

MSc. 4123. **Marine Invertebrate Physiology (4)**

MSc. 4131. **Marine Phycology (4)**

MSc. 4132. **Introduction to Marine Plankton (4)**

MSc. 4171. **Oceanographic Summer Cruise (4)**

MSc. 4172. **Marine Environment Group Research (3)**

MSc. 4175. **Topics in Marine Science (3-4)**

MSc. 4900. **Independent Study (1-4)**

MSc. 4920-4999. **Directed Group Study (1-4)**

SCIENCE EDUCATION COURSES(See *Science Education*, page 375, for the following courses.)

ScEd. 5110. **Science in the Secondary Schools (Biological Science) (3)**

ScEd. 5200. **Science Inquiry at the Elementary School Level (4)**

ScEd. 5201. **Concepts of Marine Science (3)**
(Offered at the Moss Landing Marine Laboratories)

GRADUATE COURSES(For detailed descriptions of the following courses, see the *Graduate Catalog*.)

Biol. 6101-9. **Selected Topics in Physiology (3 each)**

Biol. 6110. **Desert Biology (4)**

Biol. 6125. **Marine and Fresh-Water Plankton (5)**

Biol. 6131-2-3. **Principles and Practice of Vector Control (4,4,4)**

Biol. 6151-2-3. **Cell Biology (4,4,4)**

Biol. 6160. **Community and Ecosystem Ecology (4)**

Biol. 6170. **Population Ecology (4)**

Biol. 6201-9. **Selected Topics in Botany (3 each)**

Biol. 6210. **Plant Biosystematics (4)**

Biol. 6220. **Mycology (4)****Biol. 6230.** **Plant Ecology (5)****Biol. 6310.** **Insect Ecology (4)****Biol. 6420.** **Advanced Medical Microbiology (5)****Biol. 6430.** **Selected Topics in Biochemistry Laboratory (3)**(See *Chem. 6430* for course description.)**Biol. 6510.** **Physiological Ecology (4)****Biol. 6521-9.** **Topics in Invertebrate Zoology (3 each)****Biol. 6570.** **Wildlife Ecology (4)****Biol. 6581-2.** **Mammalian Systems Physiology (5,5)****Biol. 6590.** **Analysis of Vertebrate Faunas (4)****Biol. 6610.** **Electron Microscopy (2)****Biol. 6611.** **Electron Microscopy Laboratory (2)****Biol. 6801-9.** **Graduate Seminar—Ecology (3 each)****Biol. 6811-19.** **Graduate Seminar—Physiology (3 each)****Biol. 6851-9.** **Graduate Seminar—Zoology (3 each)****Biol. 6900.** **Independent Study (1-4)****Biol. 6910.** **Thesis Research (1-9)****Biol. 6920-6999.** **Directed Group Study (1-4)****Black Studies**

Offered in the Department of Black Studies

1001-2-3. **The Black Man in American Civilization (4 each)**

A survey of the Black man in American life and civilization from the Black perspective; emphasis upon historical, socio-economic, political, and psychological aspects; Black contributions to American arts. Four hrs. lect./disc. each.

1001: 1619 to 1860 (F)

1002: 1860 to 1900 (W)

1003: 1900 to contemporary times (Sp)

1510. **Rhetoric of the Black Revolution (4)**

The development of communicative techniques through a critical examination and evaluation of the speeches and writings of prominent exponents of the Black revolution. Four hrs. lect./disc. (F)

1800. **Employment Market for Minorities (3)**

Emphasis upon analysis of employment market, procurement, retention, vocational aptitude testing, and the availability of further training in various professions. (A)

1920-1999. **Directed Group Study (1-4)**

2010. Black Visual Arts Seminar (5)

(See Art 2010 for course description.)

2110. Racial Conflict and Ethical Values (4)

(See Phil. 2110 for course description.)

2310. Black Identity (4)

A study of the unique psychology which evolved as a result of the Black experience in America and how it is related to the basic processes of human behavior. Four hrs. lect./disc. (Sp)

2320. Racism in America (4)

An examination of racist attitudes, behavior, and policies of America and Americans. Four hrs. lect./disc. (F, W, Sp)

2410. Black Social and Political Philosophy (4)

An analysis of society from the Black perspective and relating to the Black experience. Four hrs. lect./disc. (F)

3001-2-3. Development of African Civilization (4 each)

A survey of the historical, political, and socio-economic aspects of African civilizations; contributions to men's thought and the arts. Four hrs. lect./disc. each.

3001: the beginnings to the 15th century (F)

3002: the 15th century to the 19th century (W)

3003: Emergent Africa: the 20th century (Sp)

3020. The Civil Rights Movement (4)

The historical, socio-economic and political development of the major civil rights movements in the United States. Four hrs. lect./disc. (Sp)

3110. The Politics of Black Power (4)

A study of the practices, effects, and implications of the Black power movement relative to Black communities and national policies. Four hrs. lect./disc. (W)

3691. Black Literature I (5)

(See Engl. 3691 for course description.)

3692. Black Literature II (5)

(See Engl. 3692 for course description.)

3790. Black Literature III (5)

(See Engl. 3790 for course description.)

4010. Slavery in the Western World (4)

A comprehensive study of the institution of slavery and its effects on the Western world. Four hrs. lect./disc. (Y)

4020. Blacks North and West—Ante Bellum U.S. (4)

An intensive study of the lives of Afro-Americans outside the South during slavery. Four hrs. lect./disc. (Y)

4100. Imperialism and Racism in the Americas (4)

An investigation of the contemporary socio-economic, psychological and cultural treatment of Black people in the Western Hemisphere. Four hrs. lect./disc. (F)

4110. Selected Topics in Government and Black Society (4)

A study of political systems and their economic foundations from the Black perspective: a critical analysis of federal, state and local governments and their impact upon Black people; topics to be selected each term. May be repeated once for credit. Four hrs. lect./disc. (F, W)

4120. World Political Theory and Black Protest (4)

A study and evaluation of contributions made by political thinkers throughout the world to the development of Black protest in 20th century America. Four hrs. lect./disc. (W)

4130. Community Projects (4)

Supervised field work in socio-economic and/or political organizations within the community. May be repeated for credit. Two hrs. seminar, 4 hrs. act. (Sp)

4515. The Black Man in American History to 1877 (4)

(See Hist. 4515 for course description.)

4516. The Black Man in American History Since 1877 (4)

(See Hist. 4516 for course description.)

4890. Seminar in Black Studies Methodology (4)

Methodological problems in Black Studies: examination of research strategies; definition of problem areas. (F, W)

4899. Seminar in Black Studies (4)

Selected topics in Black Studies; preparation of seminar papers on individual research. May be repeated once for credit. (F, W, Sp)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****Botany**

See Biological Science, page 256

Business Administration**ACCOUNTING**

See Accounting, p. 240.

MANAGEMENT SCIENCES

See Management Sciences, p. 322.

MARKETING

See Marketing, p. 328.

Chemistry

Offered in the Department of Chemistry

1100. Introduction to College Chemistry (5)

Fundamental principles of general chemistry. Recommended for students who have not previously taken a course in chemistry. Three hrs. lect., 6 hrs. lab., disc. (F, Su)

1101, 1102, 1103. General Chemistry (5 each)

Fundamental principles of chemistry. Laboratory includes descriptive chemistry of representative elements, qualitative analysis (second quarter), quantitative analysis. Prerequisites: Chem. 1100 or satisfactory performance on placement examination covering high school chemistry and algebra; one year high school chemistry, two years high school mathematics, and one year high school physics are recommended. Chem. 1101 is prerequisite to Chem. 1102; Chem. 1102 is prerequisite to Chem. 1103. Three hrs. lect., 6 hrs. lab. each. (1101—F, W; 1102—W, Sp; 1103—Sp, Su)

1601, 1602, 1603. Basic Chemistry for the Health Sciences (5 each)

A one-year, terminal sequence in chemistry intended primarily for students in the nursing program. Chem. 1601 emphasizes inorganic chemistry; Chem. 1602 emphasizes organic chemistry; Chem. 1603 emphasizes biochemistry. Does not satisfy chemistry requirements for physical science or biological science majors. Prerequisite: Chem. 1100 or satisfactory performance on placement examination covering high school chemistry and algebra. Chem. 1601 is prerequisite to Chem. 1602; Chem. 1602 is prerequisite to Chem. 1603. Three hrs. lect., 6 hrs. lab. (1601—W; 1602—Sp; 1603—F)

1920-1999. Directed Group Study (1-4)

2200. Quantitative Analysis (5)

Elementary gravimetric and volumetric analysis; instrumental methods of analysis. Prerequisite: Chem. 1103. Three hrs. lect., 6 hrs. lab. (F, W, Su)

2301, 2302. Survey of Organic Chemistry (4,4)

Classes of organic compounds and reactions emphasizing subjects in biological sciences. For non-chemistry majors not planning advanced work in organic chemistry. Prerequisite: Chem. 1103; Chem. 2301 is prerequisite to Chem. 2302. Chem. 2301, 4 hrs. lect.; Chem. 2302, 2 hrs. lect., 6 hrs. lab. (2301—F, W, Su; 2302—W, Sp, Su)

2400. Introductory Biochemistry (4)

Correlation of chemical and biological phenomena. Introduction to laboratory procedures employed in studying biochemical processes. Not open to chemistry majors. Prerequisite: Chem. 2302. Three hrs. lect., 3 hrs. lab. (F)

3110. Intermediate Inorganic Chemistry (3)

Inorganic compounds, their structure and physical properties from both theoretical and experimental points of view. Prerequisite: Chem. 2302, or 3302. (Y)

3301, 3302, 3303. Organic Chemistry (5 each)

An introduction to the chemistry of aliphatic, aromatic, and heterocyclic compounds emphasizing basic principles. Laboratory work in basic techniques and synthesis. Prerequisite: Chem. 1103. Chem. 3301 is prerequisite to Chem. 3302, Chem. 3302 is prerequisite to Chem. 3303. Three hrs. lect., 6 hrs. lab. (3301—F, W; 3302—W, Sp; 3303—Sp, Su)

3411, 3412. Clinical Biochemistry I, II (5,5)

The chemistry and metabolism of amino acids, proteins, carbohydrates, lipids and other molecules of biochemical interest. Emphasis on separation and analytical techniques in clinical chemistry. Prerequisites: 3411: Chem. 2200 and Chem. 2302 or Chem. 3303; Chem. 3411 is prerequisite to 3412. Three hrs. lect., 6 hrs. lab. each. (3411-W, 3412-Sp).

4110. Introduction to Geochemistry (5)

(See Earth Sci. 4110 for course description.)

4161, 4162. Theoretical Inorganic Chemistry (3 each)

Bonding and structure of inorganic compounds. Mechanisms of inorganic reactions. Prerequisites: Chem. 4513, 3303, or 2302. Chem. 4161 is prerequisite to Chem. 4162. (4161—F; 4162—W)

4170. Advanced Inorganic Chemistry (3)

An advanced study of non-metal chemistry; the chemistry of boranes, and organometallic, coordination and transition metal compounds. Prerequisites: Chem. 4162; 3110 or consent of instructor. (Sp)

4180. Inorganic Chemistry Laboratory (2)

Laboratory experience in the preparation and characterization of selected inorganic compounds. Prerequisite: Chem. 4533, 4162. Six hrs. lab. (Sp)

4210. Analytical Chemistry (4)

Introduction to the methods of research in the development of modern analytical chemical methods. Prerequisite: 4513 (or concurrent enrollment). (Y)

4240. Instrumental Methods of Analysis (3)

Theory and application of spectrochemical, chromatographic, and electrochemical methods of analysis. Prerequisites: Chem. 2200, Chem. 3303, and Chem. 4533. (F)

4310. Qualitative Organic Analysis (4)

Identification of unknown organic compounds with emphasis on the use of microtechniques; discussion of modern qualitative and instrumental methods, with special regard to the identification of natural products. Prerequisite: Chem. 3303. One hr. lect., 9 hrs. lab. (W)

4311, 4312. Advanced Organic Chemistry (3,3)

Mechanistic approaches to synthetic studies; chemistry of carbonyl compounds; chemistry of heterocyclic and polycyclic compounds with emphasis on those of natural origin or biological interest. Prerequisites: Chem. 3303; Chem. 4311 is prerequisite to 4312. (4311—F, 4312—W)

4330. Synthetic Organic Methods (3)

The theory and techniques of organic synthesis. Problems on methods of separation, purification, and verification by spectroscopic means. Prerequisite: Chem. 4310 or consent of instructor. Nine hrs. lab. (Sp)

4340. Physical Organic Chemistry I (4)

Theoretical aspects of organic chemistry based on modern concepts; chemical and physical properties of organic compounds, mechanisms of organic reactions. Prerequisites: Chem. 3303 and 4512. (Sp)

4411, 4412. General Biochemistry (4,4)

Selected topics in the chemistry and metabolism of biologically important compounds; investigation of intermediate reactions and cycles involved in metabolism; thermodynamics and kinetics of enzyme-catalyzed reactions. Prerequisites: Chem. 2200, 3303, 4513. (Chem. 4411 is prerequisite to 4412.) (4411—F; 4412—W)

4430. General Biochemistry Laboratory (4)

Laboratory techniques in biochemistry. Intended to supplement General Biochemistry, Chem. 4411 and 4412. Prerequisites: Chem. 4411 and 4412. Two hrs. lect., 6 hrs. lab. (Sp)

4500. Introductory Physical Chemistry (5)

An introductory study of the fundamental physical laws, theoretical principles and mathematical relations in chemistry. Prerequisites: Chem. 2200 or 2301 (may be taken concurrently), Phys. 2703 or consent of instructor. Four hrs. lect., 2 hrs. act. (Y)

4511, 4512, 4513. Physical Chemistry Lecture (3, 3, 3)

Fundamental physical laws, theoretical principles and mathematical relations of chemistry. Prerequisites: 4511: Chem. 2200, Math. 2303 or 2304, Phys. 2101 (or concurrent) or Phys. 2703; 4512: Chem. 4511, Physics 2102 (or concurrent) or Phys. 2703; 4513: Chem. 4512, Physics 2103 (or concurrent) or Phys. 2703. (4511—F; 4512—W; 4513—Sp)

4521, 4522. Elements of Chemical Thermodynamics (3,3)

Selected topics in classical and statistical thermodynamics, with emphasis on thermochemical calculations. Prerequisite: Chem. 4533. Chem. 4521 is prerequisite to Chem. 4522. (4521—F; 4522—W alt. years.)

4531, 4532, 4533. Physical Chemistry Laboratory (2, 2, 2)

Experience in the measurement of physicochemical properties, digital computer analysis of experimental data, and report writing. Experience with FORTRAN computer programming recommended. Prerequisites: 4531: Chem. 4511 or concurrent; 4532: Chem 4531; 4533: Chem 4532. Six hours lab. each. (4531—F; 4532—W, 4533—Sp)

4700. Survey of Chemical Literature (3)

Systematic introduction to the use of the chemical literature. Prerequisites: upper-division standing; 1 year of German. May be taken credit/no credit by majors. (F)

4810. Undergraduate Research (2-4)

Independent research under the guidance of a member of the Chemistry Department faculty. Prerequisites: Chem. 4533; consent of instructor; at least a 3.0 (B) grade-point average in all Chemistry courses. May be repeated for credit.

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****GRADUATE COURSES**

(See Graduate Catalog for complete description)

Chem. 6110. Advanced Topics in Inorganic Chemistry (3)**Chem. 6310. Advanced Topics in Organic Chemistry (3)****Chem. 6430. Selected Topics in Biochemistry Laboratory (3)****Chem. 6510. Advanced Topics in Physical Chemistry (3)****Chem. 6520. Chemical Kinetics (3)****Chem. 6820. Seminar (1)****Chem. 6830. Research (1-5)****Chem. 6850. Methods of Graduate Research (3)****Chem. 6900. Independent Study (1-3)****Chem. 6910. Thesis (1-3)****Chem. 6920-6999. Directed Group Study (1-3)****Child Development**

Offered in the Department of Child Development

1920-1999. Directed Group Study (1-4)**2001. Human Development in Contemporary Society (4)**

Introduction to the study of social and environmental problems influencing human development. Two hrs. lect., 2 hrs. disc. (Y)

2005. Foundations and Problems in the Study of Human Development (4)

Introduction to the problems in the scientific study of human development. Two hrs. lect., 2 hrs. disc. (Y)

3001. Behavioral and Biological Approaches in Human Development I (3)

Study of human development, utilizing concepts and methodologies of the behavioral and biological sciences. Three hrs. lect. (F)

3002. Behavioral and Biological Approaches in Human Development II (3)

Continuation of CDev. 3001. Prerequisite: CDev. 3001. (W)

3003. Behavioral and Biological Approaches in Human Development III (3)

Continuation of CDev. 3002. Prerequisite: CDev. 3002. (Sp)

3011. Sociocultural and Experiential Approaches in Human Development I (3)

Basic concepts and methods in the study of sociocultural and experiential aspects of human development. Three hrs. lect. (F)

3012. Sociocultural and Experiential Approaches in Human Development II (3)

Continuation of CDev. 3011. Prerequisite: CDev. 3011. (W)

3013. Sociocultural and Experiential Approaches in Human Development III (3)

Continuation of CDev. 3012. Prerequisite: CDev. 3012. (Sp)

3021. Structure and Dynamics of Human Development I (3)

The nature, characteristics, and study of human development: interdisciplinary analysis and integration. Concurrent enrollment in CDev. 3031 and concurrent or prior enrollment in CDev. 3001 and 3011 required. Three hrs. lect./disc. (F)

3022. Structure and Dynamics of Human Development II (3)

Continuation of CDev. 3021, which is prerequisite. Concurrent enrollment in CDev. 3032 and concurrent or prior enrollment in CDev. 3002 and 3012 required. Three hrs. lect./disc. (W)

3023. Structure and Dynamics of Human Development III (3)

Continuation of CDev. 3022, which is prerequisite. Concurrent enrollment in CDev. 3033 and concurrent or prior enrollment in CDev. 3003 and 3013 required. Three hrs. lect./disc. (Sp)

3031. Process of Human Development I (3)

Clinical study of developmental processes and their conceptualization in laboratory and field settings. Concurrent enrollment in CDev. 3021 required. Three hrs. seminar. (F)

3032. Process of Human Development II (3)

Continuation of CDev. 3031, which is prerequisite. Concurrent enrollment in CDev. 3022 required. Three hrs. seminar. (W)

3033. Process of Human Development III (3)

Continuation of CDev. 3032, which is prerequisite. Concurrent enrollment in CDev. 3023 required. Three hrs. seminar. (Sp)

3800. Human Development and Interaction (4)

Study of human development in interpersonal contexts. Two hrs. lect., 2 hrs. disc. (Y)

4510. Cognitive Development (4)

The development of cognitive functions from infancy through old age. (Y)

4520. Language Acquisition and the Symbolic Function (4)

A thorough study of the development of representational systems; play, imagery, drawing. Major emphasis will be on the development of language. Prerequisite: CDev. 4510. (Y)

4530. Developmental Dysfunction in Language and Cognition (4)

An examination of cognitive and linguistic dysfunctions; relevant research paradigms, theories and their application. Prerequisites: CDev. 4510 or 4520. (Y)

4800. Seminar in Child Development Research (2)

Advanced individual and group research in child development. Concurrent registration in CDev. 4810 required. Prerequisites: senior standing and CDev. 3022. Two hrs. seminar. (Y)

4810. Field Study of Child Development (2)

Supervised individual and group study of children: development and behavior. Understanding of research through replication and application of research studies to children in groups. Concurrent registration in CDev. 4800 required. Prerequisites: senior standing and CDev. 3022. Six hrs. lab. (Y)

4820. Advanced Study in Human Development (4)

Advanced seminar on special problems in development. Prerequisites: senior standing and CDev. 3022. Four hrs. seminar. (Y)

4870. Selected Topics in Human Development (4)

Seminar on selected area of study in human development. (May be repeated with different topic.) Prerequisites: senior standing and CDev. 3023. Four hrs. seminar. (Y)

4880. Senior Group Project in Human Development (4)

Problem solving and analysis: intensive cooperative study of selected problems. Prerequisites: senior standing and CDev. 3023. Four hrs. seminar. (Y)

4890. Senior Individual Project in Human Development (4)

Independent work focused on specialized topic under faculty guidance. Prerequisites: senior standing and CDev. 3023. (Y)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****Chinese**

See Foreign Languages, page 293.

Conservation

See Earth Sciences, page 276.

Dance

See Physical Education, page 352.

Drama

Offered in the Department of Speech and Drama

1010. Introduction to the Theatre (5)

A survey of the world of drama, with an emphasis on the historical development of the dramatic arts. (A)

2010. Pantomime and Movement (4)

Fundamental work in developing the body as an acting instrument. Theory and practice in the development of character in situation, utilizing kinesthetic recall, emotional memory, and the use of precise movement to project meaning. Two hrs. lect., 4 hrs. act. (F, W, Sp)

2011. Acting I (4)

Beginning study and practice in scene preparation. Fundamental activity designed for achievement in performance through emotional discovery. Prerequisite: Dr. 2010. Two hrs. lect., 4 hrs. act. (F)

2111. Fundamentals of Play Production I (3)

An introduction to the elements of the physical theatre with emphasis on stage scenery and lights. Prerequisite: Dr. 1010. Two hrs. lect., 2 hrs. act. (F)

2112. Fundamentals of Play Production II (3)

An introduction to the elements of physical theatre with emphasis on stage costumes and makeup. Prerequisite: Dr. 1010. Two hrs. lect., 2 hrs. act. (W)

2150. Stagecraft (3)

A study of basic stage and shop equipment, materials and fundamental scenic construction techniques. Prerequisite: Dr. 2111 or consent of instructor. Two hrs. lect., 2 hrs. act. (W)

2210. Mass Media of Communication (4)

(See Sp 2210 for course description.)

2215. Introduction to Radio and Television (4)

(See Sp 2215 for course description.)

2220. Art of the Cinema (4)

Study of the motion picture as a dramatic visual art, involving theories of film making, the viewing of films, and analysis of techniques. Two hrs. lect., 4 hrs. act. (Y)

2310. Interpretative Reading (4)

Theory, methods, and practice of oral communication of lyric, narrative, and dramatic poetry and prose. (A)

2485. Voice and Speech Improvement (4)

(See Sp 2485 for course description.)

3010. Improvisational Theatre (3)

Students improvise story, setting and costume in scenes using techniques ranging from vaudeville to mime to street theatre. Open to majors and nonmajors. Two hrs. lect., 2 hrs. act. (Y)

3012. Acting II (4)

Study of complex characterization. Prerequisite: Dr. 2011. Two hrs. lect., 4 hrs. act. (W)

3013. Acting III (4)

Advanced study of complex characterization, theory and practice of historical styles of acting. Prerequisites: Dr. 2011, 3012. Two hrs. lect., 4 hrs. act. (Sp)

3150. Stage Lighting (4)

A basic study of the physics and mechanics of stage lighting equipment and of theories of lighting design. Prerequisite: Dr. 2111 or consent of instructor. Two hrs. lect., 4 hrs. act. (Y)

3170. Drafting and Stage Mechanics (3)

Advanced study of scene construction, including methods of specifying materials and techniques by mechanical drawing. Prerequisites: Dr. 2111 and 2150. One hr. lect., 4 hrs. act. (F)

3201. Development of Dramatic Art I: The Greek Period Through the Middle Ages (3)

The historic development of the theatre from the Greek period through 1400, including study of representative plays, physical aspects of the theatre, and production practices. (F)

3202. Development of Dramatic Art II: The Renaissance Through the 17th Century (3)

The historic development of the theatre from 1400 through 1700, including study of representative plays, physical aspects of theatre, and production practices. (W)

3203. Development of Dramatic Art III: The 18th Century to the Present (3)

The historic development of the theatre from 1700 to this year, including study of representative plays, physical aspects of theatre, and production practices. (Sp)

3207. Modern American Theatre (3)

Study of representative American playwrights and their theatre from the Group Theatre to the present. (Y)

3422. History of Costume (4)

An analysis of the historic development of costume from the Egyptian to modern times. Prerequisite: Dr. 1010 (Y)

3610. Interpretation of Children's Literature and Story Telling (3)

Techniques of story telling; selection and practice in reading poetry and prose for children. Suggested for elementary teachers and drama majors. Two hrs. lect., 2 hrs. act. (Y)

3650. Creative Dramatics (3)

Theory and techniques for developing the creative capacities of children through improvisations of stories; participation and leadership in creative dramatics provided by means of a creative dramatics class with children. Two hrs. lect., 2 hrs. act. (Y)

3918. Stage Makeup (2)

A study of the theories of stage makeup, with practical experience in the application of these theories. One hr. lect., 2 hrs. act. (Sp)

4011. Acting Studio (3)

Problems in acting for the advanced student. In-depth study of particular characters. Prerequisites: Acting I, II, III or consent of instructor. Two hrs. lect., 2 hrs. act. (Y)

4021. Play Direction I (Theory) (4)

Basic procedures and fundamental principles of play direction. Prerequisites: Dr. 2111, 2112, 3011. Three hrs. lect., 2 hrs. act. (Y)

4022. Play Direction II (Practice) (4)

Advanced procedures and practices in play direction: composition, movement, business, tempo. Practical application of methods in studio performance. Prerequisite: Dr. 4021. Two hrs. lect., 4 hrs. act. (Y)

4050. Trends in Modern Theatre (3)

Lecture and discussion of contemporary drama on the stage, in motion pictures, and television. Study and analysis of current dramatic activity in the Bay Area. Field trips to current dramatic events and production centers. (Y)

4060. Black Drama (4)

Lecture and discussion of the history of Afro-American dramatic literature and theatrical production. (Y)

4181. Drama Workshop—Acting (2)

On-stage participation in departmental productions. Admission by consent of instructor. May be repeated for credit. (A)

4182. Drama Workshop—Technical (2)

Participation in construction, painting, lighting, and shifting of scenery for departmental productions. Prerequisite: Dr. 2111 or consent of instructor. May be repeated for credit. (F, W, Sp)

4184. Drama Workshop—Costuming (2)

Participation in the construction and maintenance of costumes for departmental productions. Prerequisite: Dr. 2112. May be repeated for credit. (F, W, Sp)

4185. Drama Workshop—Children's Theatre (1-2)

Participation in and/or observation of rehearsal and performance of Children's Theatre productions. Three hrs. act., 1 unit of credit. Afternoons. Admission by consent of instructor. May be repeated for credit. (F, Sp)

4187. Laboratory Theatre Workshop (1-2)

Participation, both on and off stage, in various aspects of theatrical production, including original and experimental works and readers theatre. May be repeated for credit. Prerequisite: Consent of instructor. (A)

4310. Advanced Interpretative Reading (4)

An intensive analysis of dramatic literature, emphasizing problems of content, structure, and style for the oral interpreter. Prerequisites: Drama 2310 or consent of instructor. (Y)

4355. Teaching of Speech and Drama (4)

(See Sp. 4355 for course description.)

4400. Dramatic Criticism (4)

A study of the work of major dramatic critics from Aristotle to the present. (Y)

4415. Playwriting (4)

Preparation of original material for the theatre. Student will be involved in the writing and criticism of play scripts. Individual editorial conferences included. Prerequisites: Dr. 1010 and Engl. 2070 or consent of instructor. One hr. lect., 6 hrs. lab. (Y)

4421. Scene and Light Design (4)

A study of aesthetics and preparation of stage designs. Problems to include recording or execution of scenic and/or lighting designs. Prerequisites: Dr. 2111, 2150, 3150, 3170 or consent of instructor. Two hrs. lect., 4 hrs. act. (Alt. Sp.)

4422. Costume Design (4)

The design and construction of costumes for the stage, utilizing designs and patterns created by the students. Prerequisite: Dr. 2112, or consent of instructor. Two hrs. lect., 4 hrs. act. (Y)

4424. Scene Painting and Graphic Language (1)

Discussions of studio organization, methods, and materials. Exercises in use of scenic color mediums on various scenic surfaces. Techniques of light and shade, texture treatment, transparencies, transparencies. Open only to drama majors. May be repeated for a total of 3 units. Two hrs. act. (Y)

4445. Theatre Organization and Management (3)

The principles of theatre management and supervision: house management, publicity, box office, ticket sales, theatre safety and insurance, admission taxes, payroll procedures, employment contracts, and theatrical unions. (Y)

4610. Speech/Drama in the Elementary Classroom (3)

(See Speech 4610 for course description.)

4650. Theatre for Children (3)

Theory and techniques of selecting, directing, and producing plays by and for children. Opportunity for working with a children's play to be presented to a child audience. (Y)

4655. Advanced Creative Dramatics (3)

Advanced course in creative dramatics research, theory and practical experience in an elementary school classroom. Prerequisite: Drama 3650 and consent of the instructor. Two hrs. lect., 2 hrs. act. (Y)

4750. The Drama and Contemporary Problems (4)

Seminar in the study of contemporary socio-economic, moral, and political problems as they are reflected in the drama. Prerequisite: Upper-division standing. (Y)

4800. Selected Topics in Drama (4)

Specialized study of selected topics from the areas of drama. May be repeated once with new content. Prerequisite: Senior standing and consent of the instructor. (Y)

4920-4999. Directed Group Study (1-4)

Earth Sciences

Offered in the Department of Earth Sciences
CONSERVATION COURSES

3000. Conservation of Natural Resources (5)

Interrelationships of soils, water, minerals, forests, grasslands, and wildlife; ecology applied in the wise use of natural resources. Suitable for Upper Division General Education requirement. Prerequisite: Completion of General Education area requirements in Natural Science. Five hrs. lect. (F, W, Sp)

4901. Independent Study in Conservation (1-4)**4920-4999. Directed Group Study (1-5)**

GEOLOGY COURSES

1001. Introduction to the Earth Sciences (4)

Composition, structure and evolution of the earth. Interactions of lithosphere, hydrosphere, and atmosphere. Relations of geologic systems, hazards, and resources to man's environment and future. Prerequisite: None; concurrent enrollment in Earth Sci. 1002 recommended. One optional Saturday or Sunday field trip. Four hrs. lect./disc. (A)

1002. Problems in Environmental Geology (2)

Investigations of environmental geologic problems in the San Francisco Bay area, including landslides, earthquake hazards, and shoreline erosion. Prerequisite: Earth Sci. 1001 (may be taken concurrently). One hr. lect./disc., two hrs. act./field trips. (Y)

1201. Introduction to Oceanography (4)

Origin of ocean basins, nature of the sea floor, physical/chemical characteristics of sea water, ocean currents, marine life, relationships between man and the sea. Does not satisfy requirements in Earth Sciences major. Four hrs. lect./disc., one optional Saturday field trip. (Y)

1920-1999. Directed Group Study (1-4)**2101. Physical Geology (5)**

Nature and distribution of earth materials, the processes by which the materials are formed and altered, and the nature and development of the landscape. Four hrs. lect., 3 hrs. lab.; one Saturday or Sunday field trip. (A)

2201. Historical Geology (5)

Principles of interpretation of earth history. Development of continents, oceans, mountains, and other physical features; evolution of life with introduction to paleontology. Prerequisites: Earth Sci. 2101 or equivalent. Four hrs. lect., 3 hrs. lab.; one Saturday field trip. (F)

2500. Life of the Past (4)

Evolution of plants and animals as preserved in the fossil record. Significance of fossils in interpreting earth history, especially paleogeography, paleoclimatology, and paleoecology. Designed for other than Earth Sciences and Biological Science majors. Three hrs. lect., 3 hrs. lab.; one Saturday field trip. (Y)

3200. Regional Field Geology (1-2)

Reconnaissance field study of geology of selected areas in California and adjoining regions with mobile field camp during quarter recess. May be repeated, but no more than 4 units may be applied to requirements for Earth Sciences major. Prerequisites: one lower division course in earth sciences and permission of instructor. Thirty hrs. field/lab. per unit. (Y)

3300. Principles of Geology (4)

An introductory survey of current knowledge in physical and historical geology, geophysics, geochemistry, geomorphology and oceanography. The appropriate physical and biological principles are introduced and developed as they apply to the above topics. Not open to students who have had Earth Sci. 2101 or equivalent. Prerequisites: upper division standing. Four hrs. lect. (Y)

3400. General Oceanography (5)

(See also Marine Sciences: MSc 4101)

Physical, chemical, geological and biological characteristics of the sea including hydrodynamics, dissolved gases and solids, geology of the ocean basins, and marine ecosystems. Prerequisites: familiarity with principles of the physical sciences and Earth Sciences 2101 or equivalent, or consent of instructor. Four hrs. lect., 3 hrs. lab.; one or two all-day Saturday field trips. Not open to students who have completed M.Sc. 3400. (Y)

3520. Systematic Paleontology (4)

Morphology, paleoecology, evolution, classification, and geologic significance of fossil organisms including monerans, protists, fungi, invertebrate and vertebrate animals, and plants. Cross-listed with Bio.Sci. 3520. Prerequisites: Earth Sci. 2201 or Biol. 1103. Two hrs. lect., 6 hrs. lab. (W)

3610. Crystallography and Mineralogy (5)

Elements of crystallography, including orthographic and stereographic crystal projection, external crystal symmetry and morphology, and crystal classification; identification of minerals by their physical and chemical properties; chemistry and crystal structure of selected mineral groups. One Saturday field trip. Prerequisite: Earth Sci. 2101 or equivalent and Chem. 1103 or equivalent, or permission of instructor. Two hrs. lect., 9 hrs. lab. (F)

3710. Igneous and Metamorphic Petrology (5)

Characteristics, occurrence, and genesis of igneous and metamorphic rocks; classification of such rocks based on hand lens determination of their textures and mineralogy. Prerequisite: Earth Sci. 3610 or equivalent. Three hrs. lect., 6 hrs. lab.; one weekend field trip. (W)

3720. Sedimentary Petrology (3)

Texture, composition, and classification of sedimentary rocks. Sedimentary processes including weathering, transportation, deposition and lithification. Laboratory analysis and identification of sediments and sedimentary rocks. Prerequisites: Earth Sci. 3610 and 3710 (either may be taken concurrently). Two hrs. lect., 3 hrs. lab., field trips. (W)

3730. Principles of Stratigraphy (3)

Stratigraphic units, procedures, and relationships. Principles, types, and methods of correlation. Preparation and interpretation of stratigraphic maps, cross-sections, and charts. Principles of paleoecology. Field project required. Prerequisite: Earth Sci. 2201. Two hrs. lect., 3 hrs. lab., field trips. (Sp)

3810. Structural Geology (5)

Structural features of sedimentary and metamorphic rocks and mechanisms of their genesis; study of laboratory work on brittle fracture and plastic flow; solution of problems by descriptive geometry and stereographic projection. Occasional weekend field trips. Prerequisite: Earth Sci. 2101 or equivalent and Phys. 2701 or equivalent or permission of instructor. Three hrs. lect., 6 hrs. lab. (Sp)

3910. Geologic Field Methods (3)

Introduction to geologic field methods and instruments, use of aerial photographs and topographic maps in geologic mapping, preparation of geologic maps of local areas. Prerequisites: Earth Sci. 3710, -20, -30 and 3810 (any of these courses may be taken concurrently). One hr. lect., 6 hrs. field. (Sp)

4010. Introduction to Geophysics (5)

Principles of geochronology; seismology; gravity and isostasy; terrestrial heat flow, magnetism and electricity. Collection and analysis of geophysical data. Prerequisites: Earth Sci. 2101 and Phys. 2703 or equivalent. Three hrs. lect., 6 hrs. lab.; field trip required. (Sp)

4100. Principles of Geomorphology (5)

Analysis of landforms; effects of processes of diastrophism, weathering, mass-wasting, erosion, and deposition in shaping the earth's surface. Laboratory interpretation of maps and aerial photographs; two or more field trips required. Cross-listed with Geog. 4100. Prerequisite: Earth Sci. 2101. Four hrs. lect., 3 hrs. lab. (W, Sp)

4102. Marine Science Techniques (MSc 4102) (3)

(See Marine Sciences section for course description)

4110. Introduction to Geochemistry (5)

Thermodynamics of geologic systems: weathering, sedimentation, crystallization of silicate melts, hot solutions and gases, metamorphism, behavior of elements in the earth. Cross-listed with Chem. 4110. Prerequisites: Earth Sci. 3610 (may be taken concurrently), Math. 1303, Chem. 1103, or equivalents. Three hrs. lect., 6 hrs. lab. (F)

4120. Geology of Ore Deposits (5)

Characteristics, occurrence, and origin of ore deposits with emphasis on their relationships with local geology; physical and chemical determination of ore minerals. Prerequisites: Earth Sciences 4110 or permission of instructor; Earth Sciences 3710 recommended. Three hrs. lect., 6 hrs. lab., two Saturday field trips. (W)

4141. Geological Oceanography (MSc 4141) (3)

(See Marine Sciences section for course description)

4142. Marine Biogenic Sedimentation (MSc 4142) (3)

(See Marine Sciences section for course description.)

4143. Coastal Geomorphology (MSc 4143) (3)

(See Marine Sciences section for course description)

4171. Oceanographic Cruise (MSc 4171) (4)

(See Marine Sciences section for course description)

4310. Geology of California (4)

Study of the stratigraphy, igneous rocks, and structure of California; interpretation of the state's geologic history. Prerequisites: Earth Sciences 2101 or equivalent (Earth Sci. 2201 recommended) and permission of instructor. Two hrs. lect., 6 hrs. lab/field. Several weekend (overnight) and Saturday field trips required. (F)

4410. Physical and Chemical Oceanography (MSc 4410) (4)

(See Marine Sciences section for course description.)

4510. Micropaleontology (MSc 4510) (3)

(See Marine Sciences section for course description.)

4610. Optical Mineralogy (5)

Elements of optical crystallography. Functions and use of the light polarizing microscope. Identification of minerals and amorphous solids in immersion liquids and thin sections. Prerequisites: Earth Sci. 3610 or equivalent and Phys. 2703 or equivalent, or permission of instructor. Two hrs. lect., 9 hrs. lab. (Sp)

4630. X-Ray Crystallography (4)

Introduction to the study of crystalline solids by X-ray diffraction; generation of X-rays and diffraction theory; compound identification and determination of precise lattice parameters. Prerequisites: Chem. 1103, Math. 1304, Phys. 2703 or equivalent or permission of instructor. Two hrs. lect., 6 hrs. lab. (Y)

4800. Seminar (1)

Critical, in-depth study of selected areas of current and classical research in the earth sciences. Topics not repeated in two-year interval; students may not receive credit more than 6 times. Prerequisite: senior standing or permission of instructor. One hr. seminar. (A)

4820. Field Geology (8)

Field laboratory application of techniques of geological mapping; compilation of detailed geological maps and reports. Recommended to be taken at end of junior year. Forty-eight hours a week for 5 weeks. Prerequisites: Earth Sci. 3710, 3720, 3730, 3810, 3910, or equivalents and permission of instructor. (Su)

4830. Geological Field Studies in Western United States (4)

Field laboratory applications of techniques of geological mapping, compilation of geological maps and reports of classical areas of the western United States. Prerequisites: Earth Sci. 3710, 3720, 3730, 3810, 3910, and 4820 or equivalents and permission of instructor. Forty hrs. field/lab. per week for 3 weeks. (Su)

4902. Independent Study in Geology (1-4)**METEOROLOGY COURSES****1400. Introduction to Meteorology (4)**

Introduction to the atmosphere, physics of the atmosphere, physical causes of climate; structure and circulation, weather and weather forecasting; emphasis on aspects of interest to the prospective or in-service teacher. Prerequisite: Phys. Sci. 1340 or equivalent. Four hrs. lect. (Y)

3100. Micrometeorology (4)

A study of the weather and climate in the layer next to the ground, including interactions and exchanges between earth and atmosphere, with applications to air pollution, agriculture, urban planning, architecture, and related problems. Prerequisites: Earth Sci. 1400 and Math. 1303 (or equivalent of the latter) or consent of instructor. (Y)

4151. Marine Meteorology (MSc 4151) (3)

(See Marine Sciences section for course description.)

4903. Independent Study in Meteorology (1-4)**4920-4999. Directed Group Study (1-4)****Economics**

Offered in the Department of Economics

2301. Principles of Economics I (4)

Basic micro-economic concepts; introductory analysis of the determination of prices and output in different market situations; public policy. Prerequisite: sophomore standing. (A)

2302. Principles of Economics II (4)

Basic macro-economic concepts; introductory analysis of the determination of national income and employment; money and banking; fiscal policy. Prerequisite: Econ. 2301. (A)

3001. Micro-Economic Theory I (4)

The principles of demand, supply, production, and costs; price and output determination in different market situations. Prerequisites: Econ. 2301, 2302, with grade of at least C in 2301; Math. 1803 or 1305, or equivalent. (A)

3002. Micro-Economic Theory II (4)

Theory of factor pricing and income distribution; general equilibrium; capital and interest; optimum allocation of resources. Prerequisite: Econ. 3001. (F, Sp)

3005. Macro-Economic Theory (4)

Measurement and analysis of the determination of national income and employment; general price level; stabilization and growth. Prerequisites: Econ. 2301, 2302, with grade not lower than C in 2302. (A)

3151. Economic History of the United States I (4)

The economic history of the United States to 1865, with special emphasis on theories of American economic development. Prerequisites: Econ. 2301, 2302. (Y)

3152. Economic History of the United States II (4)

The economic history of the United States since 1865, with special emphasis on theories of American economic development. Prerequisites: Econ. 2301, 2302. (Y)

3161. Economic History of Europe I (4)

Economic development of Europe through the Industrial Revolution. Forces involved in the origin of modern economic systems. Prerequisites: Econ. 2301, 2302. (Y)

3162. Economic History of Europe II (4)

Economic development of Europe since the Industrial Revolution. Prerequisite: Econ. 3161. (Y)

3200. Comparative Economic Systems (4)

Comparative study of different economic systems proposed or used to deal with the economic organization of society. Prerequisites: Econ. 2301, 2302. (Y)

3210. The Soviet Economy (4)

An introduction to the economic organization and policies of the U.S.S.R.; growth, institutions, and problems. Prerequisites: Econ. 2301, 2302. (Y)

3303. Controversial Economic Issues (4)

American and Soviet systems of organizing economic resources, monopoly and competition, economic growth rate and inflation, public vs. private sector problems, farm policy, and major international economic issues. Open only to students with majors outside the School of Business and Economics. Prerequisite: upper-division standing. (Y)

3310. Money and Banking (4)

Essentials of commercial and central banking; monetary policy. Prerequisite: Econ. 3005. (Y)

3370. Public Finance (4)

Public sector economics: taxation, welfare economics, public goods, the rationale of government activity and collective choice. Prerequisite: Econ. 3001. (Y)

3500. Regional and Urban Economics: Survey (4)

Economic analysis as applied to urban and regional economic problems and policies. Prerequisites: Econ. 2301, 2302. (Y)

3551-2. Managerial Economics I, II (4 each)

A case analysis and problems approach to intermediate micro-economic theory stressing business applications. Prerequisite: Econ. 2301, 2302; Math. 1803 or 1305, or equivalent. Econ. 3551 is a prerequisite to 3552. Courses not open to economics majors. (A)

3680. Labor Economics (4)

Theory of the operation of labor markets, with the application of this theory to current manpower problems and the level of employment. Prerequisites: Econ. 2301, 2302. (Y)

3685. Labor Institutions (4)

Development of the labor sector in the American economy with emphasis on labor institutions, labor legislation, and public policy toward labor organizations. Prerequisites: Econ. 2301, 2302. (Y)

4011. Senior Seminar in Early Economic Thought (4)

Readings, discussion, and papers on pre-classical writings on economic issues and on the derivative critical literature. Ancient, medieval, mercantilistic, and physiocratic writers are considered. Prerequisites: Econ. 3001, 3002, 3005. (W)

4012. Senior Seminar in Economic Thought (4)

Readings, papers, and discussions of major controversies in the literature, chosen from the classical, historical, neoclassical, Keynesian, and modern eras. Prerequisites: Econ. 3001, 3002, 3005. (Sp)

4100. International Economics (4)

The basis of trade; foreign exchange; foreign investment; and world economic growth. Prerequisites: Econ. 2301, 2302. (Y)

4105. International Finance (4)

Emphasis on interpretation of the balance of payments and the adjustment to national and international equilibria through changes in price levels, exchange rates, and national income. Prerequisite: Econ. 4100. (Y)

4110. Economic Development (4)

The principles of development, with particular emphasis on underdeveloped countries. Prerequisites: Econ. 2301, 2302. (Y)

4130. Inter-American Economic Relations (4)

Major economic problems, issues, and policies in relations between the United States and Latin American countries. Prerequisites: Econ. 2301, 2302. (Y)

4305. Seminar in Environmental Economics (4)

Individual research projects on economic aspects of environmental problems: pollution, congestion, population, crime, etc. Written and oral presentation emphasizing critical class evaluation. (W)

4315. Senior Seminar in Monetary Theory (4)

Review of current literature on the demand for and supply of money; effects of monetary policy on inflation, unemployment, interest rates, and balance of payments. Prerequisite: Econ. 3310. (Y)

4320. Business Fluctuations (4)

Nature and significance of business fluctuations; analysis of principal explanations of fluctuations. Prerequisite: Econ. 3005. (Y)

4370. Senior Seminar in Public Finance (4)

Readings, discussion, and papers relating to problems in non-market resource allocation. Prerequisites: Econ. 3001, 3370, or consent of instructor. (W)

4400. Introduction to Econometrics (4)

Applications of statistical techniques to obtain quantitative estimates of relationships suggested by economic analysis. Prerequisites: Econ. 3001, 3005; Mgmt. 3100 (or Stat. 3010). Three hrs. lect., 2 hrs. act. (Y)

4420. Introduction to Mathematical Economics (4)

Applications of the calculus and differential equations to economics, specifically the theory of the household and the firm, capital theory, macro-economics systems, fluctuations, and growth. Prerequisites: Econ. 3001, 3005; Math. 1305. Three hrs. lect., 2 hrs. act. (Y)

4520. Industrial Organization and Public Policy (4)

Factors determining industrial organization and economic behavior; operation of antitrust laws; public regulation. Prerequisite: Econ. 3001. (Y)

4590. Senior Seminar in Economic Analysis (4)

Selected topics in economics depending upon the interests of the students and instructor. May be repeated for credit under different instructors. Prerequisites: senior standing and consent of instructor. (Y)

4895. Workshop in Economic Research (1)

Workshop activity in the preparation, presentation, and evaluation of student and faculty research projects. Content varies. May be repeated each quarter for credit. Must be taken Credit/No Credit. (F, W, Sp)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****5550. Graduate Managerial Economics (6)**

A course in intermediate micro-economic theory incorporating business applications through case and problem assignments for individual and group presentation. Prerequisites: Graduate standing with no undergraduate intermediate micro-economics course. (A)

GRADUATE COURSES

(For complete descriptions of the following courses see the *Graduate Catalog*.)

Econ. 6001. Seminar: Micro-Economic Theory I (4)**Econ. 6002. Seminar: Micro-Economic Theory II (4)****Econ. 6005. Seminar: Macro-Economic Theory I (4)****Econ. 6006. Seminar: Macro-Economic Theory II (4)****Econ. 6013. Seminar: History of Economic Thought (4)****Econ. 6100. Seminar: International Economics (4)****Econ. 6110. Seminar: Economic Development (4)****Econ. 6150. Seminar: Economic History (4)****Econ. 6200. Seminar: Theory and Practice of Planning (4)****Econ. 6210. Seminar: The Soviet Economy (4)****Econ. 6310. Seminar: Monetary Theory (4)****Econ. 6370. Seminar: Public Finance (4)****Econ. 6520. Seminar: Industrial Organization and Public Policy (4)****Econ. 6680. Seminar: Labor Economics (4)****Econ. 6900. Independent Study (1-4)**

Econ. 6905. M.A. Research Paper (1-2)

Econ. 6910. Thesis (1-6)

Econ. 6920-6999. Directed Group Study (1-4)

Educational Psychology

Offered in the Department of Educational Psychology

(Full course descriptions appear in the Graduate Catalog)

4800. Peer Advisement and Counseling (3)

Application of counseling techniques to problems of peer counseling and advising in a University setting. Emphasis on interviewing, sensitivity, communication, the counseling relationship, educational requirements. Two hrs. lect., 2 hrs. act. (F,W,Sp)

E.Psy. 5021. The Exceptional Child (4)

E.Psy. 5570. Organization and Administration of Pupil Personnel Services (4)

E.Psy. 5750. Pupil Personnel Work (4)

E.Psy. 5900. Independent Study (1-4)

E.Psy. 5920-99. Directed Group Study (1-4)

E.Psy. 6020. Research in Education (4)

E.Psy. 6024. Design of Educational Research (4)

E.Psy. 6025. Psychopathology of Childhood (4)

E.Psy. 6121. Counseling Exceptional Children (4)

E.Psy. 6122. The Mentally Retarded Child (4)

E.Psy. 6123. Psycho-Educational Aspects of Exceptional Children (4)

E.Psy. 6160. Exceptional Child Laboratory (4)

E.Psy. 6610, 6620, 6630. Pupil Personnel Seminar I, II, III (2 each)

E.Psy. 6660, 6661, 6662. Field Work in Pupil Personnel Services I, II, III (2 each)

E.Psy. 6669. Seminar in Mental Health Consultation (3)

E.Psy. 6700. Advanced Educational Psychology (4)

E.Psy. 6701. Appraisal Procedures (4)

E.Psy. 6720. Concepts of Intelligence (4)

E.Psy. 6722. Vocational Appraisal and Placement (4)

E.Psy. 6735. Educational and Vocational Planning (4)

E.Psy. 6736. Career Development Theory (4)

E.Psy. 6737. Adult Career Psychology (4)

E.Psy. 6746. Learning Disabilities (4)

E.Psy. 6750. Counseling Theory (4)

E.Psy. 6751. Advanced Seminar in Counseling and Psychotherapy (4)

E.Psy. 6754. Counseling Minority Youth (4)

E.Psy. 6762. Group Theory and Procedures (4)

E.Psy. 6770. Internship in Pupil Personnel (2-6)

E.Psy. 6810, 6820, 6830. Advanced Pupil Personnel Seminar I, II, III (2 each)

E.Psy. 6860, 6861, 6862. Advanced Field Work in Pupil Personnel Services I, II, III (2 each)

E.Psy. 6880. Advanced Pupil Personnel Internship (2-6)

E.Psy. 6891, 6892, 6893. Supervision Seminar I, II, III (2 each)

E.Psy. 6894, 6895, 6896. Supervision Field Work I, II, III (2 each)

E.Psy. 6897. Supervision Internship (2-6)

E.Psy. 6900. Independent Study (1-4)

E.Psy. 6910. Thesis (1-9)

E.Psy. 6911. Individual Mental Testing Practicum (4)

E.Psy. 6912. Personality Assessment I (4)

E.Psy. 6920-6999. Directed Group Study (1-4)

English

Offered in the Department of English

1000.* Composition and Grammar (3)

The fundamentals of composition and grammar, designed as a preparation for Engl. 1001. (A)

1001.** Expository Writing (3)

The theory and practice of expository writing. Required of all students. Engl. 1001 meets general education requirements in *Basic Subjects, Item 1*. (A)

1813. Introduction to Fiction (5)

Elements of fiction: a study of plot, characterization, language, and theme. Prerequisite: Engl. 1001. (A)

1920-1999. Directed Group Study (1-5)

2020. The Research Paper: Preparation and Writing (4)

An introduction to basic research techniques and to the effective written presentation of research findings. Prerequisite: Engl. 1001. (Y)

2030. Introduction to Critical Writing I (5)

The theory and practice of critical writing, based on readings in fiction and prose drama. Prerequisite: Engl. 1001. (A)

2040. Introduction to Critical Writing II (5)

The theory and practice of critical writing, based on readings in verse. Prerequisite: Engl. 1001. (A)

* This course will not satisfy any part of the one-year-of-English requirement for the credential candidate under the Fisher Act.

** This course will not satisfy any part of the one-year-of-English requirement for the credential candidate under the Fisher Act who has already taken an equivalent freshman composition course.

2061. Introduction to the Study of Language (5)

The nature and functions of language considered philosophically and structurally; special attention to language as the medium of literary expression. Prerequisite: Engl. 1001. (Y)

2070. Beginning Workshop in Fiction (4)

Introduction to imaginative writing of various types. Prerequisite: Engl. 1001. May be taken twice for credit. Two hrs. lect., 6 hrs. lab. (A)

2259. Readings in Shakespeare (4)

Major themes in Shakespeare. An introductory course for non-majors. No credit for English majors. Prerequisite: Engl. 1001. (Y)

2817. Film and Literature (4)

Lecture-discussion, with film, comparing the film version to its literary source and emphasizing characterization, theme, and technique. May be repeated once for credit with different titles of literature and consent of instructor. Prerequisite: Engl. 1001. (Y)

3003. Discursive Writing (3)

The theory and practice of expository writing, with critical reading and evaluation of formal and informal prose. Prerequisites: Engl. 1001 and junior standing. (F, W, Sp)

3010. Modern English Grammar (5)

The structure of standard written English, with emphasis on its relation to literature and on its historical development. Prerequisites: Engl. 1001 and junior standing. (A)

3020. Advanced Expository Writing (5)

The theory and practice of expository writing; criticism of prose, with examples from the seventeenth century to the present. Prerequisites: Engl. 2030 and 2040. (A)

3040. Linguistic History of the English Language (5)

A linguistic approach to the origin and development of English, and its relations to cognate languages. Prerequisites: Engl. 1001 and junior standing. (W, Su)

3060. Topics in the Study of the English Language (5)

Intensive study of a single aspect of the English language, or of a group of closely related aspects. Prerequisites: Engl. 1001 and junior standing. (Y)

3070.† Intermediate Workshop in Fiction (4)

The student will write regularly and will participate in classroom analysis and criticism of manuscripts submitted. Individual editorial conferences. Prerequisites: Engl. 2070 and consent of instructor. May be repeated twice for maximum total credit of 12 units. Two hrs. lect., 6 hrs. lab. (F, W, Sp)

3075.† Intermediate Workshop in Poetry (4)

Practice in form and technique; weekly manuscripts, class criticism, editorial conferences. May be taken three times for credit. Prerequisite: Engl. 2070 or consent of instructor. Two hrs. lect., 6 hrs. lab. (F, Sp)

3691. Black Literature I (5)

A comprehensive history of Black writing in America from the beginnings to 1930. Cross-listed with Bl. St. 3691. Prerequisites: Engl. 1001 and junior standing. (F)

† Before enrolling in this course, consult the instructor.

3692. Black Literature II (5)

A comprehensive history of Black writing in America from 1930 to the present. Cross-listed with Bl. St. 3692. Prerequisites: Engl. 1001 and junior standing. (W)

3710. Medieval Literature (5)

Literary patterns in Medieval Europe: the epic, the courtly novel, and lyric poetry, from the troubadours to Chaucer. Prerequisites: Engl. 1001 and junior standing. (On demand)

3720. Renaissance Humanism (5)

The contribution of classical learning to the European renaissance. Prerequisites: Engl. 1001 and junior standing. (F)

3730. The Classical Tradition (5)

The development of the classical spirit in Western literature, from the literature and philosophy of Greece and Rome to neo-classicism in France and England. Prerequisites: Engl. 1001 and junior standing. (Y)

3740. The Romantic Era: 1770-1830 (5)

The dominant themes and styles of romanticism, with readings from major writers. Prerequisites: Engl. 1001 and junior standing. (On demand)

3750. Realism and Naturalism, 1830-1910 (5)

Major movements in the literature of Europe in the 19th and early 20th centuries, with emphasis on a major figure or figures. Prerequisites: Engl. 1001 and junior standing. (On demand)

3760. Literature of the Twentieth Century (5)

Major movements in recent European and American literature, with emphasis on a major figure or figures. Prerequisites: Engl. 1001 and junior standing. (On demand)

3790. Black Literature III (5)

A study of ancient and modern Black writers from Africa, the Mediterranean, and the Caribbean. Cross-listed with Bl. St. 3790. Prerequisites: Engl. 1001 and junior standing. (Sp)

3801. The Drama (5)

Examination of principles of structure, modes of representation, and development of theme in Western Drama from the Greeks and Romans to the modern theater. Prerequisite: Engl. 1001. (Y)

3950. Puritan Civilization (4)

New England Puritan Civilization from its inception to its demise at the death of its last great representative, Jonathan Edwards. Cross-listed with Hist. 3950. (Y)

4070.† Advanced Workshop in Fiction (4)

Writing of long and short fiction. For the prospective professional writer. Prerequisites: Engl. 3070, and consent of instructor. May be repeated twice for a maximum of 12 units. Two hrs. lect., 6 hrs. lab. (F, W, Sp)

4075.† Advanced Workshop in Poetry (4)

Writing of poetry. For the prospective professional poet. Prerequisites: Engl. 3075 and/or consent of instructor. May be repeated twice for a maximum credit of 12 units. Two hrs. lect., 6 hrs. lab. (F)

† Before enrolling in this course, consult the instructor.

4080.† The Art of Translation (4)

Theory and practice of translation; special problems in style, form, and imagery. Prerequisite: consent of instructor. Two hrs. lect., 6 hrs. lab. May be repeated twice for a maximum credit of 12 units. (Y)

4151. Chaucer and His Milieu (5)

The Canterbury Tales and other poetry; selections from the works of other significant medieval English authors. Prerequisite: Engl. 2030 and 2040. (F)

4152. Advanced Chaucer (5)

Intensive study of selected works of Chaucer, with related reading. Prerequisite: Engl. 4151. (Y)

4220. Studies in 17th-Century Literature (5)

Intensive study of selected authors or topics of the late Renaissance. Prerequisite: Engl. 2030 and 2040. (Y)

4251. Introduction to Shakespeare (5)

The dramatic conventions of the Shakespearean theatre; the Renaissance intellectual background; a survey of representative plays and poems. Prerequisite: Engl. 2030 and 2040. (F, Sp)

4252. Advanced Shakespeare (5)

Intensive study of selected plays of Shakespeare. Prerequisite: Engl. 4251. (Y)

4260. Milton (5)

A study of Milton's poetry and selected prose. Prerequisite: Engl. 2030 and 2040. (Y)

4325. Studies in 18th-Century British Literature (5)

Intensive study of selected authors or topics of the Restoration and Neo-Classical periods. Prerequisite: Engl. 2030 and 2040. (Y)

4411. Studies in Early 19th-Century British Literature (5)

Intensive study of selected authors or topics of the Romantic period. Prerequisite: Engl. 2030 and 2040. (Y)

4412. Studies in Late 19th-Century British Literature (5)

Intensive study of selected authors or topics of the Victorian period. Prerequisite: Engl. 2030 and 2040. (Y)

4590. Senior Seminar in Literature (5)

Intensive study of selected topics in British or American literature or language. Open to senior English majors only. (Sp)

4591.† Honors in English (2)

Studies in English literary backgrounds open to selected students only. A lecture and tutorial program to be taken for three of the six quarters prior to the student's graduation. Concurrent enrollment in Independent Study for one unit required. (On demand)

4634. Studies in Early American Literature (5)

Intensive study of selected authors or topics of Colonial America and the early Republic. Prerequisites: Engl. 1001 and junior standing. (Y)

† Before enrolling in this course, consult the instructor.

4635. Studies in Mid-19th-Century American Literature (5)

Intensive study of selected authors and topics of mid-19th-century America. Prerequisite: Engl. 2030 and 2040. (Y)

4636. Studies in Late 19th-Century American Literature (5)

Intensive study of selected authors and topics from the Civil War to 1914. Prerequisite: Engl. 2030 and 2040. (Y)

4637. Studies in 20th-Century American Literature (5)

Intensive study of selected authors and topics from 1914 to the present. Prerequisite: Engl. 2030 and 2040. (Y)

4690. Senior Seminar in American Studies (2)

Interdisciplinary seminar on topics in American civilization. Open only to seniors in American Studies. Concurrent registration for 2 units of Engl. 4900 required. May be repeated for credit with consent of instructor. (On demand)

4710. Biblical Literature (5)

The stories, poems, parables, sermons, and epistles in the development of monotheism. Prerequisites: Engl. 1001 and junior standing. (Y)

4720. Mythology (5)

Cosmologies and cosmogonies: readings from literatures of the Orient, the Near East, the Mediterranean, and Europe. Prerequisites: Engl. 1001 and junior standing. (Y)

4731. Classical Literature I (5)

Readings in classical literature, including cultures of Ancient Greece and Rome, with emphasis on epic literature. Prerequisites: Engl. 1001 and junior standing. (Y)

4732. Classical Literature II (5)

Readings in classical literature, including cultures of Ancient Greece and Rome, with emphasis on dramatic literature. Prerequisites: Engl. 1001 and junior standing. (Y)

4740. History of Children's Literature (4)

The development of themes, forms, and techniques in children's literature from its folk origins to the present. Prerequisite: Engl. 1001. (Y)

4810. English Drama Before 1642 (5)

A history of the drama from its liturgical beginnings to the closing of the theaters. Prerequisite: Engl. 2030 and 2040. (Y)

4813. Restoration and 18th-Century Drama (5)

A history of the English drama from 1660 to 1800. Prerequisite: Engl. 2030 and 2040. (Y)

4816. Modern Drama (5)

A history of English and American drama since 1890; Shaw, Wilde, and later dramatists. Prerequisites: Engl. 1001 and junior standing. (Y)

4820. The Lyric (5)

The evolution of the short poem from its medieval origins to the present. Prerequisite: Engl. 2040 or consent of instructor. (On demand)

4827. 20th-Century Poetry (5)

A study of representative British and American poets from 1914 to the present. Prerequisite: Engl. 2040 or consent of instructor. (On demand)

4831. British Novel Before 1800 (5)

Development of the British novel from its beginnings through the 18th century. Prerequisite: Engl. 2030 and 2040. (Y)

4832. British Novel, 1800-1914 (5)

Development of the British novel through the Romantic and Victorian periods and up to the beginning of World War I. Prerequisite: Engl. 2030 and 2040. (Y)

4833. British Novel from 1914 to 1945 (5)

A study of the development of the 20th-century British novel from World War I through World War II. Prerequisites: Engl. 1001 and junior standing. (Y)

4836. The Short Story (5)

Development of the modern short story in America and Europe. Prerequisites: Engl. 1001 and junior standing. (On demand)

4860. American Fiction to 1914 (5)

The development of American fiction from Cooper to Dreiser, including Poe, Hawthorne, Melville, Twain, James, and others. Prerequisites: Engl. 2030 and 2040. (Y)

4870. The American Novel, 1914-1945 (5)

Development of the 20th-century American novel from World War I through World War II. Prerequisites: Engl. 1001 and junior standing. (Y)

4876. Current American and British Novel (5)

Development of the British and American novel since World War II. Prerequisites: Engl. 1001 and junior standing. (Y)

4900. Independent Study (1-5)**4920-4999. Directed Group Study (1-5)****5030. The Teaching of Composition (3)**

Theories and problems of teaching college composition. No credit for M.A. degree in English. Prerequisite: Consent of instructor. (F, W, Sp)

5050. Teaching English in the Secondary School (2)

Methods and curricula for the teaching of English in the junior high school, the high school, and the junior college. Audiovisual techniques. Prerequisite: consent of instructor. (F)

GRADUATE COURSES

(For complete descriptions of the following courses, see the *Graduate Catalog*.)

Engl. 6000. Seminar in Bibliography and Methods of Research (5)**Engl. 6010. Seminar in Theory and Practice of Literary Criticism (5)****Engl. 6100. Seminar in Medieval Literature (5)****Engl. 6205. Seminar in Renaissance Non-Dramatic Literature (5)****Engl. 6210. Seminar in Renaissance Drama (5)****Engl. 6350. Seminar in 18th-Century Literature (5)****Engl. 6405. Seminar in 19th-Century British Literature (5)****Engl. 6600. Seminar in 19th-Century American Literature (5)****Engl. 6655. Seminar in 20th-Century Literature (5)****Engl. 6900. Independent Study (1-5)****Engl. 6910. Thesis (5)****Engl. 6920-6999. Directed Group Study (1-5)****English as a Foreign Language****1001. English as a Foreign Language I (4)**

Auditory and oral skills in English. Intensive reading and writing for familiarity with English syntax and word forms. May be taken for credit only during the first quarter in which it is offered after the student begins enrollment at CSUH. Prerequisite: consent of instructor. Two hrs. lect., 6 hrs. lab. (not to be offered during 1974-75)

1002. English as a Foreign Language II (4)

Reading, writing and listening in English. A continuation of EFL 1001. May be taken for credit only during the first quarter in which it is offered after the student begins enrollment at CSUH or after completion of EFL 1001 (if required). Prerequisite: EFL 1001 or consent of instructor. Two hrs. lect., 6 hrs. lab. (not to be offered during 1974-75)

Entomology

See *Biological Science*, page 256

Environmental Studies

Offered as an Interdisciplinary Study

2000. Introduction to Environmental Studies (4)

Survey of important local, national, and world environment problems, emphasizing a multidisciplinary approach. Four hrs. lect./disc. (F, W, Sp)

3000. Environmental Field Studies (2)

Designed to expose students to a variety of current environmental problems and concerns in the San Francisco Bay Area. Prerequisite or concurrent: Envt. 2000. Four hrs. field trips. (F, W, Sp)

4000. Senior Seminar in Environmental Studies (4)

Problem-oriented around selected topics of environmental concern, and requiring projects or reports. Prerequisites: Envt. 2000 and Envt. 3000; restricted to seniors completing the Concentration in Environmental Studies. (W, Sp)

Foreign Languages

Offered in the Department of Foreign Languages and Literatures
GENERAL COURSES

1920-99. Directed Group Study (1-4)

3710. Medieval Literature (5)
(Same as Engl. 3710) (F)

3720. Renaissance Humanism (5)
(Same as Engl. 3720) (W)

3730. The Classical Tradition (5)
(Same as Engl. 3730) (Sp)

4900. Independent Study (1-4)

4920-99. Directed Group Study (1-4)

5080. Methods in the Teaching of Foreign Languages (3)

Methods, practice and techniques in the teaching of modern foreign languages on the secondary level. Particular stress given to the audio-lingual and audio-visual approach. Prerequisites: competence in at least one foreign language and consent of instructor. (Y)

5900. Independent Study (1-4)

5920-99. Directed Group Study (1-4)

6900. Independent Study (1-4)

6920-99. Directed Group Study (1-4)

FOREIGN LITERATURE COURSES IN ENGLISH TRANSLATION

3185. French Literature in English Translation (4)

(See description under French Courses.)

3281. Germany Today (4)

(See description under German Courses.)

3283. Kafka in English (4)

(See description under German Courses.)

3284. Brecht in English (4)

(See description under German Courses.)

3286. German Activist in English (4)

(See description under German Courses.)

3287. German Literature East and West in English (4)

(See description under German Courses.)

3385. Italian Literature in English Translation (4)

(See description under Italian Courses.)

3485. Spanish Literature in English Translation (4)

(See description under Spanish Courses.)

3486. Spanish-American Literature in English Translation (4)

(See description under Spanish-American Literature.)

3585. Russian Literature in English Translation (4)

(See description under Russian Courses.)

3586. Russian Literature in English Translation (4)

(See description under Russian Courses.)

CHINESE COURSES

1601. Elementary Cantonese (4)

Introduction to the Cantonese Chinese language with special emphasis on the spoken language through new innovative techniques. (F)

1602. Elementary Cantonese (4)

Continuation of FLan. 1601. Prerequisite: FLan. 1601 or consent of instructor. (W)

1603. Elementary Cantonese (4)

Continuation of FLan. 1602. Prerequisite: FLan. 1602 or consent of instructor. (Sp)

1611. Elementary Mandarin I (4)

Introduction to the listening, speaking, reading and writing of Mandarin Chinese. (F)

1612. Elementary Mandarin II (4)

Continuation of FLan. 1611. Prerequisite: FLan 1611 or consent of instructor. (W)

1613. Elementary Mandarin III (4)

Continuation of FLan. 1612. Prerequisite: FLan. 1612 or consent of instructor. (Sp)

1614. Elementary Mandarin IV (4)

Continuation of FLan. 1613. Prerequisite: FLan. 1613 or consent of instructor. (F)

FRENCH COURSES

NOTE: Students may be admitted to any of the following courses by consent of instructor.

1101. Elementary French (4)

Introduction to the reading, writing, understanding, and speaking of French. (A)

1102. Elementary French (4)

Continuation of FLan. 1101. Prerequisite: FLan. 1101. (A)

1103. Elementary French (4)

Continuation of FLan. 1102. Prerequisite: FLan. 1102. (A)

1104. French Reading I (4)

Course designed to enable student to acquire a reading knowledge of the French language. Recognitional grammar-vocabulary. Reading of texts. Not open to foreign language majors. (F)

1105. French Reading II (4)

Continuation of FLan. 1104. Prerequisite: FLan. 1104 or consent of instructor. (W)

1106. French Reading III (4)

Continuation of FLan. 1105. Prerequisite: FLan. 1105 or consent of instructor. (Sp)

2101. Intermediate French (4)

Continuation of FLan. 1103, with increased emphasis on the reading and writing of French. Prerequisite: FLan. 1103. (F)

2102. Intermediate French (4)

Continuation of FLan. 2101. Prerequisite: FLan. 2101. (W)

2103. Intermediate French (4)

Continuation of FLan. 2102. Prerequisite: FLan. 2102. (Sp)

2110. French Conversation (4)

Emphasis on the spoken language studied through texts. Strongly recommended for majors. Prerequisite: FLan. 2103 or consent of instructor. (Y)

3101. French Composition (4)

Written French and formal grammar. Prerequisite: FLan. 2103.

3102. Advanced French Composition (4)

Continuation of FLan. 3101. Prerequisite: FLan. 3101. (W)

3103. Advanced French Composition (4)

Continuation of FLan. 3102. Prerequisite: FLan. 3102. (Sp)

3110. French Conversation (4)

The spoken language studied and practiced. For students with a good academic background and/or a literary level beyond FLan. 3102 and 3121. Prerequisite: FLan. 3102 and FLan. 3121, or consent of instructor. (Y)

3111. Introduction to French Phonology and Morphology (4)

Scientific analysis of the French language with emphasis on the discovery of formal units and patterns in linguistic behavior. The phonemic principle. Morphological structure. Prerequisite: FLan. 3102 or consent of instructor. (F)

3112. French Phonetics (4)

The fundamentals of French pronunciation and intonation through a study of the phonetic structure of the language. Attention given to each student's difficulties. Individual laboratory work. Prerequisite: FLan. 3111 or consent of instructor. (W)

3121. Introduction to Literary Studies: Prose (4)

Background and critical appraisal of essential French prose works, from the 16th to the 20th centuries. Prerequisite: FLan. 3102 or consent of instructor. (F)

3122. Introduction to Literary Studies: Poetry (4)

Background and critical appraisal of important poems, from the 12th to the 20th centuries. Prerequisite: FLan. 3102 or consent of instructor. (W)

3123. Introduction to Literary Studies: Drama (4)

Background and critical appraisal of important plays from the 12th to the 20th centuries. Prerequisite: FLan. 3102 or consent of the instructor. (Sp)

3130. Explication de Textes (4)

Reading and interpretation of French texts, according to a method extensively used in French schools and universities. Demonstrations and criticism by the instructor, preparation and oral practice by the students. The texts chosen will extend from the 16th to the 20th centuries. Prerequisite: FLan. 3102 or consent of instructor. (Sp)

3141. Medieval French Literature (4)

Medieval French literature from the 11th through the 15th centuries: *Chanson de Roland*, *Lais* of Marie de France, *Tristan et Yseult*, *Eric et Enide*, *Le Roman de la Rose*. Prerequisite: FLan. 3111 or consent of instructor. (W)

3142. French Renaissance Literature (4)

Sixteenth century French literature with emphasis on Rabelais, Montaigne and the Pleiade. Prerequisite: FLan. 3121 or 3122 or 3123 or consent of instructor. (Sp)

3151. 17th Century French Theatre: The Tragedy (4)

French classical tragedy, with detailed analysis of selected plays of Corneille and Racine. Prerequisite: FLan. 3123 or consent of instructor. (F)

3152. 17th Century French Theatre: The Comedy (4)

The development of comedy, with detailed analysis of selected plays of Molière, his predecessors and contemporaries. Prerequisite: FLan. 3123 or consent of instructor. (W)

3153. 17th Century French Prose and Poetry (4)

Readings in French prose and poetry from Malherbe to Fénelon, with detailed analysis of selected texts of Descartes, Pascal, La Fontaine, Boileau, Bossuet, La Rochefoucauld, La Bruyère and others. Prerequisite: FLan. 3121 or 3122 or consent of instructor. (Sp)

3161. 18th Century French Literature (1685-1750) (4)

An introduction to 18th century literature through the study of the "philosophes" and their precursors. Particular emphasis on the works of Montesquieu, Voltaire and Diderot. Prerequisite: FLan. 3121 or consent of instructor. (Su, F)

3162. 18th Century French Literature (1750-1789) (4)

Rousseau as artist and philosopher. Prerequisite: FLan. 3121 or consent of instructor. (W)

3163. 18th Century French Literature (Theatre and Novel) (4)

Theory and practice in selected works of Voltaire, Beaumarchais, Diderot, Marivaux, Prevost, Laclos, Sade. Prerequisite: FLan. 3121 or 3123 or consent of instructor. (Sp)

3171. Romanticism (4)

The prose, poetry and drama of the early 19th century, with emphasis on Chateaubriand, Lamartine, Hugo, de Vigny and Musset. Prerequisite: FLan. 3121 or 3122 or 3123 or consent of instructor. (F)

3172. Realism (4)

Selected works of Stendhal, Balzac, and Flaubert. Prerequisite: FLan. 3121 or consent of instructor. (W)

3173. Naturalism (4)

The works of Zola, Maupassant, the Goncourts, Huysmans and Bécque. Prerequisite: FLan. 3121 or consent of instructor. (Sp)

3181. Modern Poetry (4)

French poetry of the 19th and 20th centuries, from Nerval and Baudelaire to the present. Prerequisite: FLan. 3122. (F)

3182. The Modern French Novel (4)

Development of the novel as exemplified by the works of Gide, Proust, Sartre, Camus and the "nouveau roman." Prerequisite: FLan. 3121 or consent of instructor. (W)

3183. 20th Century French Theatre (4)

The plays of Claudel, Giraudoux, Anouilh, Sartre, Beckett, Ionesco, and Genêt. Prerequisite: FLan. 3123 or consent of instructor. (Sp)

3185. French Literature in English Translation (4)

An interdisciplinary study of major authors and movements in French literature, emphasizing literary, philosophical, historical and sociological backgrounds. Not for French majors. (Y)

4101. Studies in Medieval French Literature (4)

Intensive study of a specific author, genre or movement. Prerequisite: FLan. 3141 or consent of instructor. (W)

4102. Studies in French Renaissance Literature (4)

Intensive study of a specific author, genre or movement. Prerequisite: FLan. 3142 or consent of instructor. (Sp)

4103. Studies in French Classicism (4)

Intensive study of a specific author, genre or movement. Prerequisite: FLan. 3151 or 3152 or 3153 or consent of instructor. (W)

4104. Studies in 18th Century French Literature (4)

Intensive study of a specific author, genre or movement. Prerequisite: FLan. 3161 or 3162 or 3163 or consent of instructor. (F)

4105. Studies in 19th Century French Literature (4)

Intensive study of a specific author, genre or movement. Prerequisite: FLan. 3171 or 3172 or 3173 or consent of instructor. (F)

4106. Studies in 20th Century French Literature (4)

Intensive study of a specific author, genre or movement. Prerequisite: FLan. 3181 or 3182 or 3183 or consent of instructor. (W)

4107. Studies in Individual Authors (4)

Intensive study of certain aspects of individual authors (e.g. Villon, Rabelais, Montaigne, Corneille, Racine, Molière, Voltaire, Diderot, Rousseau). Prerequisite: senior or graduate standing. (Y)

4110. History of the French Language (4)

Historical survey of the development of the French language. Prerequisite: FLan. 3111 or consent of instructor. (Y)

4150. French Culture and Civilization (4)

A study of French culture through literary and linguistic examples, taken from the Middle Ages through the twentieth century, illustrating its artistic, political, social, and philosophical schools. Prerequisite: FLan. 2103 or consent of instructor. (Y)

GRADUATE COURSES

(For detailed descriptions of the following courses, see the Graduate Catalog.)

FLan. 6100. Principles of Expository Analysis (4)**FLan. 6101. Seminar in French Phonology and Morphology (4)****FLan. 6102. Advanced Explication de Textes (4)****FLan. 6110. Seminar in Medieval French Literature (4)****FLan. 6120. Seminar in French Renaissance Literature (4)****FLan. 6130. Seminar in French Classicism (4)****FLan. 6140. Seminar in 18th Century French Literature (4)****FLan. 6150. Seminar in 19th Century French Literature (4)****FLan. 6160. Seminar in 20th Century French Literature (4)****FLan. 6170. Seminar in Literary Themes and Figures (4)****FLan. 6900. Independent Study (1-4)****FLan. 6920-6999. Directed Group Study (1-4)****GERMAN COURSES****1201. Elementary German (4)**

An audio-lingual approach to German, designed to give students skill in understanding, speaking, reading and writing the language. (F)

1202. Elementary German (4)

Continuation of FLan. 1201. Prerequisite: FLan. 1201. (W)

1203. Elementary German (4)

Continuation of FLan. 1202. Prerequisite: FLan. 1202 (Sp)

1204. German Reading I (4)

Course designed to enable student to acquire a reading knowledge of the German language. Recognitional grammar-vocabulary. Reading of texts. Not open to foreign language majors. (F)

1205. German Reading II (4)

Continuation of FLan. 1204. Prerequisite: FLan. 1204 or consent of instructor. (W)

1206. German Reading III (4)

Continuation of FLan. 1205. Prerequisite: FLan. 1205 or consent of instructor. (Sp)

2201. Intermediate German (4)

A continuation of FLan. 1203 with increased emphasis on audio-lingual facility, written composition and collateral reading. Prerequisite: FLan. 1203. (F)

2202. Intermediate German (4)

Continuation of FLan. 2201. Prerequisite: FLan. 2201. (W)

2203. Intermediate German (4)

Continuation of FLan. 2202. Prerequisite: FLan. 2202. (Sp)

2210. German Newspapers (4)

Current newspapers and periodicals from West and East Germany will be read and discussed in German. This course may be repeated once and may count toward the fulfillment of departmental language requirements upon approval of departments concerned. Prerequisite: FLan. 2201 or consent of instructor. (F)

3201. German Composition (4)

Advanced grammar and structure of the language. Prerequisite: FLan. 2203 or consent of instructor. (Su)

3202. German Composition (4)

Continuation of FLan. 3201. Prerequisite: FLan. 3201 or consent of instructor. (F)

3210. Practice in Listening and Speaking (4)

Listening to original recorded material such as radio programs, plays and lectures. Discussion and oral presentation of assigned topics. Prerequisite: FLan. 2203 or consent of instructor. (Sp)

3221. Introduction to German Literature I (4)

An introduction to German literature from the Age of Enlightenment to the *Klassik*. Prerequisite: FLan. 2203 or consent of instructor. (F)

3222. Introduction to German Literature II (4)

An introduction to German literature from the Age of Romanticism to Realism. Prerequisite: FLan. 3221 or consent of instructor. (W)

3223. Introduction to German Literature III (4)

An introduction to German literature: The modern Period. Prerequisite: FLan. 3222 or consent of instructor. (Sp)

3224. German Culture and Civilization (4)

A general introduction to German culture and civilization, with emphasis on the major social, historical and literary periods of Germany. Prerequisite: FLan. 3210 or consent of instructor. (F)

3243. Eighteenth Century Literature—Enlightenment (4)

The prose, poetry and drama of the 18th century, with emphasis on Klopstock, Wieland and Lessing. Prerequisite: FLan. 3221 or consent of instructor (W)

3253. Modern and Contemporary Drama (4)

From Hauptmann to Brecht and Dürrenmatt. Prerequisite: FLan. 3223 or consent of instructor. (F)

3262. Modern and Contemporary German Fiction (4)

Kafka, Mann and present-day authors. Prerequisite: FLan. 3223 or consent of instructor. (Sp)

3263. The German Novella (4)

A critical survey of one of the most important literary forms in German literature. The course will cover the works of Goethe, Hoffman, Mörike, Eichendorff, Storm, Göss and others. Prerequisite: FLan. 3221 or consent of instructor. (W)

3271. Romanticism (4)

The prose, poetry and drama of the early 19th century, with emphasis on Schlegel, Tieck, Hoffman and Eichendorff. Prerequisite: FLan. 3221 or 3222 or 3223, or consent of instructor. (W)

3281. Germany Today (in English) (4)

Lectures and reading on cultural, social and political trends in German-speaking countries; emphasis on West and East Germany. (Open to all students. German majors taking this course as part of their requirements must do the work in German). (F)

3283. Kafka in English (4)

An interdisciplinary study of Kafka and his influence on the modern European scene emphasizing literary, philosophical, historical and sociological backgrounds. (Sp)

3284. Brecht in English (4)

An interdisciplinary study of Brecht's plays and dramatic theory with emphasis on literary, philosophical, historical and sociological backgrounds. (W)

3286. German Activist in English (4)

An interdisciplinary study and analysis of political consciousness on hand of selected literary texts, emphasizing especially the philosophical, historical and sociological aspects. (F)

3287. German Literature East and West in English (4)

An interdisciplinary study of representative works with emphasis on separate cultural and sociological developments in East and West Germany. (W)

4207. Studies in 20th Century German Literature (4)

Intensive study of a specific author, genre or movement. Specific topic to be announced. Prerequisite: FLan. 3221, 3222, 3223 or consent of instructor. (W)

4208. Studies in German Enlightenment and Classicism (4)

Intensive study of a specific author, genre or movement. Specific topic to be announced. Prerequisite: FLan. 3223 and 3243 or consent of instructor. (F)

4209. Studies in German Romanticism and Realism (4)

Intensive study of a specific author, genre or movement. Specific topic to be announced. Prerequisites: FLan. 3223 and 3243 or consent of instructor. (F)

HINDI COURSES

(not offered in 1974-1975)

1801. Elementary Hindi (4)

Introduction to the reading, writing, understanding, and speaking of Hindi, the principal language of India. (F)

1802. Elementary Hindi (4)

Continuation of FLan. 1801. Prerequisite: FLan. 1801. (W)

1803. Elementary Hindi (4)

Continuation of FLan. 1802. Prerequisite: FLan. 1802. (Sp)

ITALIAN COURSES**1301. Elementary Italian (4)**

Introduction to the reading, writing, understanding, and speaking of Italian. (F)

1302. Elementary Italian (4)

Continuation of FLan. 1301. Prerequisite: FLan. 1301 or equivalent. (W)

1303. Elementary Italian (4)

Continuation of FLan. 1302. Prerequisite: FLan. 1302 or equivalent. (Sp)

2301. Intermediate Italian (4)

Continuation of FLan. 1303, with increased emphasis on the reading and writing of Italian. Prerequisite: FLan. 1303 or equivalent. (F)

2302. Intermediate Italian (4)

Continuation of FLan. 2301. Prerequisite: FLan. 2301 or equivalent. (W)

2303. Intermediate Italian (4)

Continuation of FLan. 2302. Prerequisite: FLan. 2302 or equivalent. (Sp)

3385. Italian Literature in English Translation (4)

An interdisciplinary study of major figures (e.g., Dante, Petrarch, Boccaccio) and trends (e.g., Humanism, Renaissance) emphasizing their literary, philosophical, historical and social aspects. (Y)

JAPANESE COURSES**1651. Elementary Japanese I (4)**

Introduction to the Japanese language with emphasis on the spoken language studied through texts. (F)

1652. Elementary Japanese II (4)

Continuation of FLan. 1651. Prerequisite: FLan. 1651 or consent of instructor. (W)

1653. Elementary Japanese III (4)

Continuation of FLan. 1652. Prerequisite: FLan. 1652 or consent of instructor. (Sp)

LATIN COURSES**1701. Elementary Latin (4)**

Fundamentals of grammar and the reading of elementary texts. Reading is begun as early as possible and continued in conjunction with grammatical study. (F)

1702. Elementary Latin (4)

Continuation of FLan. 1701. Prerequisite: FLan. 1701 or consent of instructor. (W)

1703. Elementary Latin (4)

Continuation of FLan. 1702. Prerequisite: FLan. 1702 or consent of instructor. (Sp)

2701. Intermediate Latin (4)

Reading of selected works and systematic review of grammar. Prerequisite: FLan. 1703 or consent of instructor. (F)

2702. Intermediate Latin (4)

Continuation of FLan. 2701. Prerequisite: FLan. 2701 or consent of instructor. (W)

2703. Intermediate Latin (4)

Continuation of FLan. 2702. Prerequisite: FLan. 2702 or consent of instructor. (Sp)

3735. Selected Topics (4)

Studies in Latin authors. May be repeated three times for credit with consent of instructor. (Y)

PORtUGUESE COURSES**1851. Elementary Portuguese (4)**

An audio-lingual approach to Portuguese, designed to give students skill in understanding, speaking, reading and writing the language. Student will choose Brazilian or Continental emphasis. (F)

1852. Elementary Portuguese (4)

Continuation of FLan. 1851. Prerequisite: FLan. 1851 or equivalent. (W)

1853. Elementary Portuguese (4)

Continuation of FLan. 1852. Prerequisite: FLan. 1852 or equivalent. (Sp)

2851. Intermediate Portuguese (4)

A continuation of FLan. 1853 with increased emphasis on audio-lingual facility, written composition and collateral reading. Student will choose Brazilian or Continental emphasis. Prerequisite: FLan. 1853 or equivalent. (F)

2852. Intermediate Portuguese (4)

Continuation of FLan. 2851. Prerequisite: FLan. 2851 or equivalent. (W)

2853. Intermediate Portuguese (4)

Continuation of FLan. 2852. Prerequisite: FLan. 2852 or equivalent. (Sp)

RUSSIAN COURSES**1501. Elementary Russian (4)**

An audio-lingual approach to Russian, designed to give students skill in understanding, speaking, reading and writing the language. (F)

1502. Elementary Russian (4)

Continuation of FLan. 1501. Prerequisite: FLan. 1501. (W)

1503. Elementary Russian (4)

Continuation of FLan. 1502. Prerequisite: FLan. 1502. (Sp)

2501. Intermediate Russian (4)

Continuation of FLan. 1503, with increased emphasis in the speaking, reading and writing of the language. Prerequisite: FLan. 1503. (F)

2502. Intermediate Russian (4)

Continuation of FLan. 2501. Prerequisite: FLan. 2501. (W)

2503. Intermediate Russian (4)

Continuation of FLan. 2502. Prerequisite: FLan. 2502. (Y)

3501. Russian Composition (4)

Advanced grammar and structure of the language. Prerequisite: FLan. 2503 or consent of instructor. (Y)

3502. Russian Syntax (4)

Continuation of FLan. 3501. Prerequisite: FLan. 3501 or consent of instructor. (Y)

3503. Russian Conversation (4)

Continuation of FLan. 3502. Prerequisite: FLan. 3502. (Y)

3521. Introduction to Russian Drama (4)

A critical survey of Russian drama from the eighteenth century to the present. Prerequisite: FLan. 3503 or consent of instructor. (F)

3585. Russian Literature in English Translation (4)

Major literary developments in nineteenth century Russian literature. An interdisciplinary study of literary, philosophical and social developments. May be repeated once in a different subject. (W)

3586. Russian Literature in English Translation (4)

Major literary developments in twentieth century Russian literature. An interdisciplinary study of literary, philosophical and social developments. May be repeated once in a different subject. (Sp)

SIGN LANGUAGE COURSES

1901. Elementary Sign Language I (4)

Basic techniques of fingerspelling and signs of American Sign Language, emphasizing expressive and receptive skills and techniques for interpreting. Includes intensive practice and individual evaluation. (Y)

1902. Elementary Sign Language II (4)

Continuation of FLan. 1901. Prerequisite: FLan. 1901 or consent of instructor. (Y)

1903. Elementary Sign Language III (4)

Continuation of FLan. 1902. Prerequisite: FLan. 1902 or consent of instructor. (Y)

SPANISH COURSES

1401. Elementary Spanish (4)

An audio-lingual approach to Spanish, designed to give students skill in understanding, speaking, reading and writing the language. (A)

1402. Elementary Spanish (4)

Continuation of FLan. 1401. Prerequisite: FLan. 1401 or equivalent. (A)

1403. Elementary Spanish (4)

Continuation of FLan. 1402. Prerequisite: FLan. 1402 or equivalent. (A)

1404. Spanish Reading and Translation I (4)

Course designed to enable student to acquire a reading knowledge of the Spanish language. Recognitional grammar-vocabulary. Reading of texts. Not open to foreign language majors. Prerequisite: none. (F)

1405. Spanish Reading and Translation II (4)

Continuation of FLan. 1404. Prerequisite: FLan. 1404 or consent of instructor. (W)

1406. Spanish Reading and Translation III (4)

Continuation of FLan. 1405. Prerequisite: FLan. 1405 or consent of instructor. (Sp)

1407. Elementary Spanish for Chicanos (4)

For bi-lingual students who have some familiarity with spoken Spanish but little experience with the written language. Emphasis is on vocabulary building, gaining confidence in speaking, and learning control of the written language. Reading materials are taken principally from Mexican and Mexican-American sources. Particular attention given to linguistic characteristics of the Spanish of the Southwest. Prerequisite: Consent of instructor. (F)

2401. Intermediate Spanish (4)

A continuation of FLan. 1403 with increased emphasis on audio-lingual facility, written composition and collateral reading. Prerequisite: FLan. 1403. (A)

2402. Intermediate Spanish (4)

Continuation of FLan. 2401. Prerequisite: FLan. 2401. (A)

2403. Intermediate Spanish (4)

Continuation of FLan. 2402. Prerequisite: FLan. 2402. (F, W, Sp)

2408. Intermediate Spanish for Chicanos, I (4)

A continuation of FLan. 1407. Prerequisite: FLan. 1407 or consent of instructor. (W)

2409. Intermediate Spanish for Chicanos, II (4)

A continuation of FLan. 2408. Prerequisite: FLan. 2408 or consent of instructor. (Sp)

2410. Spanish Conversation (4)

A practical application of Spanish to present-day experiences. Spanish sounds and intonation; vocabulary building. Prerequisite: FLan. 2403 or consent of instructor. (A)

3401. Advanced Spanish Composition and Syntax, I (4)

Written Spanish and formal grammar applied to advanced composition in the language. Prerequisite: FLan. 2403 or consent of instructor. (F)

3402. Advanced Spanish Composition and Syntax, II (4)

Continuation of FLan. 3401. Prerequisite: FLan. 3401 or consent of instructor. (W)

3403. Advanced Spanish Composition and Syntax, III (4)

Selected authors with special attention to style. Prerequisite: FLan. 3402 or consent of instructor. (Sp)

3404. Creative Writing in Spanish (4)

A course for students who wish to explore imaginative writing of various types. This course may replace one quarter of the sequence FLan. 3401, -2, -3. Prerequisite: Consent of instructor. (Y)

3411. Introduction to Spanish Linguistics (4)

An introduction to the principles of linguistic analysis with emphasis upon examples taken from Spanish. A brief historical survey of the development of the Spanish language. Prerequisite: FLan. 2403 or 2409 or consent of instructor. (W)

3412. Spanish Phonetics (4)

The fundamentals of Spanish pronunciation and intonation through the phonetic structure of the language. Attention given to each student's difficulties. Individual laboratory work. Prerequisite: FLan. 3411 or consent of instructor. (Sp)

3418. Introduction to Spanish Civilization (4)

A study of the Spanish national character through its history, arts, and social institutions. Prerequisite: FLan. 2403 or consent of instructor. (Y)

3419. Spanish Literature of the 12th to the 15th Centuries (4)

Medieval and pre-Renaissance literature from *El Cantar de mio Cid* to *La Celestina*. Prerequisite: FLan. 3401 or consent of instructor. (Y)

3420. Spanish Literature of the Golden Age: The Renaissance (4)

A study of Spanish 16th Century literature: Humanism in Spain; the Renaissance and mystic poets; the *romancero*; the beginnings of the novel; the theater before Lope de Vega. Prerequisite: FLan. 3401 or consent of instructor. (Y)

3421. Spanish Literature of the Golden Age: The Baroque Era (4)

A study of Spanish literature of the 17th Century; the Spanish National theater; the novel from Cervantes to Quevedo; the poetry of Lope de Vega, Góngora and Quevedo. Prerequisite: FLan. 3401 or consent of instructor. (Y)

3422. Modern Spanish Peninsular Literature: The 18th-20th Centuries (4)

A survey of the major literary movements and currents of thought from the Enlightenment through the *Generación del '98* and the present times. Prerequisite: FLan. 3401 or consent of instructor. (Y)

3485. Spanish Literature in English Translation (4)

An interdisciplinary study of outstanding works and figures in Spanish literature emphasizing literary, philosophical, historical and sociological backgrounds. Lectures and coursework in English. (Y)

4402. Intensive Study of a Single Dramatist (4)

Lope de Vega, Tirso de Molina, Calderón de la Barca, García Lorca or others. Prerequisite: Senior standing or consent of instructor. (Y)

4403. Intensive Study of a Single Poet (4)

Lope de Vega, Góngora, Quevedo, Meléndez Valdés, García Lorca or others. Prerequisite: Senior standing or consent of instructor. (Y)

4404. Intensive Study of a Single Essayist (4)

Larra, Unamuno, Ortega y Gasset or others. Prerequisite: Senior standing or consent of instructor. (Y)

4405. Intensive Study of a Single Novelist (4)

Cervantes, Galdós, Baroja or others. May be repeated for credit twice when subject changes. Prerequisite: Senior standing or consent of instructor. (Y)

4441. Spanish Poetry of the Golden Age (4)

A study of the poetry of selected poets of the 16th and 17th centuries: Garcilaso de la Vega; Fray Luis de León; San Juan de la Cruz; Góngora; Quevedo. Prerequisite: FLan. 3420 or 3421 or consent of instructor. (Y)

4442. Spanish Theater of the Golden Age (4)

A study of selected works by major playwrights of the 16th and 17th centuries: Lope de Vega; Tirso de Molina; Calderón de la Barca. Prerequisite: FLan. 3418 or 3421 or consent of instructor. (Y)

4443. The Picaresque Novel (4)

The development of the picaresque novel from *El Lazarillo de Tormes* to Quevedo's *El Buscón*. Prerequisite: FLan. 3418 or 3421 or consent of instructor.

4444. Cervantes (4)

A study of Cervantes' *Don Quijote*. Reference will be made to its literary antecedents, its originality, and its importance for the development of the modern novel. Prerequisite: FLan. 3420 or consent of instructor. (Y)

4445. Spanish Literature of the 18th Century (4)

Critical study of the Spanish Enlightenment with emphasis on the development of modern thought and a critical spirit in poetry, prose, and the theater. Prerequisite: FLan. 3422 or consent of instructor. (Y)

4446. Romanticism in Spain (4)

The major essayists, poets and dramatists of the Romantic Movement; Larra, Rivas, Espronceda, Zorrilla, Bécquer. A study of the political, social and psychological circumstances of their literary creations. Prerequisite: FLan. 3418 or 3422 or consent of instructor. (Y)

4447. The 19th Century Novel: Realism and Naturalism (4)

Selected readings of the major novelists of the last half of the 19th century: from Fernán Caballero to Blasco Ibáñez. Prerequisite: FLan. 3418 or 3422 or consent of instructor. (Y)

4448. The Generación del '98 (4)

Currents of thought in the major writers of the *Generación del '98*: Unamuno, Azorín, Pío Baroja, Maeztu, and Antonio Machado. Prerequisite: FLan. 3418, or 3422 or consent of instructor.

4449. Contemporary Spanish Drama (4)

The development of the Spanish Drama from the post-Romantic period to the present with emphasis upon the contributions of Valle Inclán, Benavente, García Lorca, and Buero Vallejo. Prerequisite: FLan. 3418 or 3422 or consent of instructor. (Y)

4456. The 20th Century Peninsular Novel (4)

The novel after the *Generación del '98*; emphasis upon the writings of Miró, Pérez de Ayala, Max Aub, Cela, Sánchez Ferlosio, and Delibes. Prerequisite: FLan. 3422 or consent of instructor. (Y)

4457. 20th Century Peninsular Poetry (4)

Major developments in Spanish poetry after the *Generación del '98*, emphasizing the contributions of Juan Ramón Jiménez, Lorca, Alberti, Guillén, León Felipe, M. Hernández, Panero, and Hierro. Prerequisite: FLan 3422 or consent of instructor.

SPANISH-AMERICAN LITERATURE**3461. Introduction to Spanish-American Literature: Before the 19th Century (4)**

History and anthology selections. Prerequisite: FLan. 3401 or consent of instructor. (F)

3462. Introduction to Spanish-American Literature: 19th Century Romanticism and Modernism (4)

Continuation of FLan. 3461. Prerequisite: FLan. 3401 or consent of instructor. (W)

3463. Introduction to Spanish-American Literature: from 1910 to the Present (4)

Prose, poetry and drama. Continuation of FLan. 3462. Prerequisite: FLan. 3401 or consent of instructor. (Sp)

3486. Spanish-American Literature in English Translation (4)

An interdisciplinary study of outstanding works and figures in Spanish-American literature emphasizing literary, philosophical, historical and sociological backgrounds. Lectures and coursework in English. (Y)

3495. Spanish-American Culture and Civilization (4)

A study of the culture and civilization of Spanish-America through its history, arts, and social institutions. Prerequisite: FLan. 2403 or consent of instructor. (Y)

4461. The Contemporary Literature of One Spanish-American Country (4)

The literature of Mexico, Argentina, Peru, Ecuador, Chile or other countries. Prerequisite: FLan. 3463 or consent of instructor. (Y)

4467. Spanish-American Literature: The Essay (4)

Selected writings of representative authors of the 19th and 20th centuries. Prerequisite: FLan. 3462 or 3463 or consent of instructor. (Y)

4468. Spanish-American Literature: The Short Story (4)

Selected writings of representative authors of the 19th and 20th centuries. Prerequisite: FLan. 3462 or 3463 or consent of instructor. (Y)

4471. The Novel of Social Protest (4)

Special studies of the novel of social protest. Prerequisite: FLan. 3462 or FLan. 3463 or consent of instructor. (Y)

4472. The Modernista Movement in Spanish America (4)

A study of the major modernista authors; poetry and/or prose. Prerequisite: FLan. 3462 or consent of instructor. (Y)

4481. Spanish-American Literature: The Drama (4)

Selected plays of representative authors of the 19th and 20th centuries. Prerequisite: FLan. 3462 or 3463 or consent of instructor. (Y)

4482. Spanish-American Literature: Poetry (4)

Major poets from the 17th century to the present. Prerequisite: FLan. 3462 or 3463 or consent of instructor. (Y)

4491. The Novel of the Mexican Revolution (4)

A study of the novel of the Mexican Revolution and its development. Prerequisite: FLan. 3462 or 3463 or consent of instructor. (Y)

4492. Spanish-American Novel (4)

The *indianista* and *gaucho* novels and their development. Prerequisite: FLan. 3462 or 3463 or consent of instructor. (Y)

4493. Contemporary Novel in Spanish America (4)

A study of the major novelists of the twentieth century, after 1940. Prerequisite: FLan. 3463 or consent of instructor. (Y)

SWAHILI COURSES**1881. Elementary Swahili I (4)**

Study and practice in speaking, understanding, reading and writing Swahili; aural-oral practice in audio laboratory. Recommended for those interested in Afro-American or African Studies.

1882. Elementary Swahili II (4)

Continuation of FLan. 1881. Prerequisite: FLan. 1881 or consent of instructor.

1883. Elementary Swahili III (4)

Continuation of FLan. 1882. Prerequisite: FLan. 1882 or consent of instructor.

Geography

Offered in the Department of Geography

INTRODUCTORY**1000. Introduction to Geography (4)**

The five co-traditions of modern geography: exploration and discovery, earth science, man-land interrelations, regionalism, spatial analysis and space relations, as exemplified in western North America. One half-day field trip required. Three hrs. lect., 1 hr. disc. (F, W, Sp)

2100. Principles of Physical Geography (4)

Major components of the physical environment, including landforms, climate, vegetation, and soils. One all-day Saturday field trip required. Three hrs. lect., 2 hrs. act. (A)

2300. Principles of Cultural Geography (4)

Cultural interpretations of man-environment relationships; distribution and diffusion of man and his works. One all-day Saturday field trip required. Three hrs. lect., 1 hr. disc. (A)

2310. Economic Geography (4)

The importance of location and linkages of economic activity for modern circumstances, including planning and development. (F, W, Sp)

3000. Resources and Man (4)

Exploration of the interactions among habitat, population, and resource utilization. Emphasis placed upon the changing potential of the earth to act as a resource base. Four hrs. lect., or 3 hrs. lect. and 1 hr. disc. (A)

INTERMEDIATE—PHYSICAL-BIOTIC GEOGRAPHY**3100. Descriptive and Regional Climatology (4)**

Climates of the continents; comparisons and contrasts among climatic types; relations between atmospheric processes and phenomena and the problems of climatic classification; microclimatology and applied climatology. Prerequisite: Geog. 2100. (F, Sp)

INTERMEDIATE—CULTURAL GEOGRAPHY**3300. Historical Cultural Geography (4)**

Historical perspective on the form, substance, and distribution of the works of man; roles of invention, diffusion, and location in cultural control of the land. Prerequisite: Geog. 1000 or 2300 or 3000. (F, Sp)

3320. Agricultural Land Utilization (4)

World agriculture: variation of agricultural methods and products; land tenure, soil fertility, techniques, changing patterns of agricultural regions and frontiers. Prerequisite: Geog. 1000 or 2300 or 3000. (W)

3330. Urban Geography: The Modern City (4)

Contemporary Western, chiefly American, urbanism as a dynamic spatial phenomenon; functional structure of cities, spatial interaction, urban settlement patterns, urban environmental quality with regional comparisons. Prerequisite: Geog. 1000 or 2300 or 3000. (F)

3335. Urban Geography: the Preindustrial City (4)

Evolution and dispersal of urbanism as a spatial phenomenon before the Industrial Revolution; morphology, function, viability, distribution of preindustrial cities; spatial interaction, cross-cultural comparisons. Prerequisite: Geog. 1000 or 2300 or 3000. (W)

3340. Population, Settlement, and Mobility (4)

Distributions and numbers of people in space and time on the earth's surface; habitation, house-types, residence and mobility patterns, settlement forms and their functions. Prerequisite: Geog. 1000 or 2300 or 3000. (W)

INTERMEDIATE—BASIC GEOGRAPHIC SKILLS**3400. Field Geography of the San Francisco Bay Region (5)**

A wide range of field experiences in observing, analyzing, and describing major man-environment relationships and resulting environmental problems. Prerequisites: Geog. 2100 or 2300 or 2310 and Junior Standing. One hr. lect., 8 hrs. act. (Sp)

3410. Map and Aerial Photo Reading and Interpretation (4)

Principles of reading, classification, and interpretation of aerial photographs as sources of information and their use in map intelligence; map appreciation, evaluation, and uses; art of map-making and its significance. Two half-day field trips required. Two hrs. lect., 2 two-hour activity sessions. (A)

3415. Field Instruments and Graphic Methods (5)

Methods of field observation and recording; pace and compass, alidade and plane table, transit, leveling, contouring, analysis of data and organization in graphic form. Prerequisite: Geog. 1000 or 2100 or 3000 or consent of instructor. One hr. lect., 8 hrs. act. (F, Sp)

3420. Field Observation and Report Writing (5)

Problems in selection, compilation, and ordering of field observations; preparation of field reports; principles of classification. Prerequisite: Geog. 3410 (may be taken concurrently), and 3415 or consent of instructor. One hr. lect., 8 hrs. act.; field work. (F, Sp)

3450. Geographic Literature and Research Aids (4)

Seminar in the basic geographical literature, source materials, and research aids. Prerequisite: Junior standing and concurrent enrollment in one other upper division geography course. (F, W, Sp)

INTERMEDIATE—REGIONAL GEOGRAPHY**3500. Geography of North America (4)**

Spatial analysis and space relations of Canada and the United States; the character or personality of their distinctive human-use regions; problems of population growth and resource development. (A)

3505. Geography of California (4)

Regional variations within California; factors contributing to landscape change; exploration, settlement, economic development, and urban-industrial-transportation patterns. Of particular interest and value to prospective elementary teachers. (A)

3510. Geography of Mexico, Central America, and the Caribbean Islands (4)

Historical and contemporary studies in the Middle America region, including physical environment, human settlement, and economic activities; problems of resource development. (F)

3515. Geography of South America (4)

Distinguishing characteristics among the Andean countries of Spanish heritage, the Guianas, and the largest country—Brazil. (W)

3520. Geography of the Pacific Basin (4)

Study of the Pacific Islands: physical geography; discovery, exploration, and occupancy; strategic role of the Pacific Islands in the modern world. (W)

3530. Geography of Australia and New Zealand (4)

Discovery, exploration, and European settlement of Australia; coastal urban patterns, and problems of development in the arid and tropical regions, comparison with Tasmania and New Zealand. (Sp)

3540. Geography of Eastern Asia (4)

Japan, Korea, China, Mongolia, Tibet, Taiwan, and Hong Kong. (Su)

3550. Geography of Southeast Asia (4)

The Philippines, Indonesia, Malaysia, and the mainland countries of Viet Nam, Laos, Cambodia, Thailand, and Burma. (W)

3560. Geography of South Asia (4)

Pakistan, India, Nepal, Sikkim, Bhutan, and Ceylon. (F)

3575. Geography of Africa South of Sahara (4)

The landforms, climate, vegetation, and cultural geography of Africa, with emphasis on the derivation and problems of emerging Negro nations and the lands of European settlement. (Sp)

3580. Geography of the Soviet Union (4)

Landforms, climate, vegetation, mineral, and demographic patterns; an analysis of historical development of cultural landscape and the agriculture and industry of the U.S.S.R. (W)

3590. Geography of Europe (4)

The geographic conditions in Europe west of the U.S.S.R., and their relationship to current economic, social, and political problems. (Sp)

INTERMEDIATE—CARTOGRAPHIC GEOGRAPHY**3600. Cartographic Principles and Graphic Communication (4)**

Introduction to principles and processes used in the design, compilation, production, and reproduction of maps; emphasis on maps as communication media. One half-day field trip required. Prerequisite: Geog. 1000 or 2100 or 3000 or consent of instructor. One hr. lect., 6 hrs. act. (F, W, Sp)

3610. Map Design, Compilation, and Construction (5)

Problems in map design: qualities of map projections, evaluation of source materials, accuracy of data, choice of scales, selection of symbols and typography, techniques of color separation. Prerequisite or concurrent: Geog. 3410 (may be taken concurrently) and 3600. Two hrs. lect., 6 hrs. act. (Sp)

3620. Statistical and Experimental Cartography (5)

Map projections: their uses, computation, and construction; calculation and compilation of graphs and special-purpose maps; individual and/or group projects in advanced cartography. Prerequisite: Geog. 3610. One hr. lect., 8 hrs. act. (F)

ADVANCED—PHYSICAL-BIOTIC GEOGRAPHY**4100. Principles of Geomorphology (5)**

Analysis of landforms; processes shaping the earth's surface. Laboratory interpretation of maps and aerial photographs; two all-day Saturday field trips required. Prerequisite: E.Sc. 2101. Four hrs. lect., 3 hrs. lab. Cross-listed with E.Sc. 4100. (W)

4110. Field Course in Physical Geography (5)

Problems and methods in analysis and mapping of landforms, drainage, weathering, soils, climatic elements; deduction of interrelations among physical processes shaping the landscape. Prerequisite: Geog. 3100 or 4100 or consent of instructor. One hr. lect., 8 hrs. act. (W)

4130. Hydrogeography (4)

Nature of water cycle with emphasis on relationships among meteorological, surface water, and ground water phenomena; problems of contamination; human responses to floods and river regimes. Prerequisite: Geog. 3100 or consent of instructor. (F)

4210. Field Course in Biotic Geography (5)

Problems and methods in analyzing and mapping vegetation associations, soil types, animal habitats; interrelations among processes determining the distribution of biotic elements. Prerequisite: Biol. 4130 or consent of instructor. One hr. lect., 8 hrs. act. (Sp)

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ADVANCED—CULTURAL GEOGRAPHY

4300. Political Geography (4)

Relations of politically-organized units (nation states, dependent territories, minor civil divisions, special-purpose regions) to their physical and cultural morphology and functions. Prerequisite: Geog. 1000 or 2300 or 3000; or major or minor in history or political science. (F, Sp)

4301. Regional Development (4)

The impact of ecological relationships and of location and linkages of economic, political, and social activity upon regional trends, and the importance of these for planning. Prerequisite: Geog. 2310 or consent of instructor. (Y)

4305. Domestication of Plants and Animals (4)

Motivations for domestication; processes and places of domestication; diffusion of domesticates from places of origin; historical role of domesticates in human affairs. Prerequisites: Biol. 1000 or equivalent and one of Anth. 1000, Anth. 2300, Geog. 1000, Geog. 2100 or Geog. 2300. (Su)

4310. Field Course in Cultural Geography (5)

Analysis and mapping of features of human origin; recognition of co-variation; cultural change; interrelations of form, function, and movement. Prerequisite: Geog. 2300 and one course in Geog. 3300 series. One hr. lect., 8 hrs. act. (F)

4315. Field Course in Urban Geography (5)

Analysis of elements of urban structure and form; rural-urban spatial interaction in the San Francisco Bay Area. Prerequisite: Geog. 3330. One hr. lect., 8 hrs. act. (Sp)

4320. Geography of Energy Resources (4)

Distribution of sources, production trends, use patterns, potentials of water, wind, volcanic, tidal, solar, and other sources of power; emphasis upon fossil fuels and nuclear energy. Prerequisite: Geog. 2310. (Sp)

4350. Water Resources and Their Management (4)

Fresh water resources, supply, control, and multiple use for domestic and municipal purposes, waste transportation, manufacturing and processing, irrigation and drainage, power, recreation, navigation, and flood control. Prerequisite: Geog. 2310. (W)

ADVANCED—HISTORICAL-THEORETICAL GEOGRAPHY

4400. Location Theory (4)

Principles underlying the location and distribution of phenomena in a theoretical framework; application of systems analysis to the study of spatial relations; concepts and theories of static structure, functional organization, and simple dynamic systems. Prerequisite: Stat. 1000 and one geography course. (W)

4425. Aerial Photographic Interpretation (4)

Reading and interpretation of earth's physical landscape from aerial photographs: obliques, verticals, and satellite photography will be analyzed and certain aspects of remote sensing of earth environments treated. Prerequisite: Geog. 3410 and consent of instructor. Two hrs. lect., 2 two-hr. activity sessions. (W)

4430. Application of Quantitative Methods in Geography (4)

Application of quantitative methods to the analysis of areal data in the solution of geographic problems. Prerequisite: Stat. 1000 and 3010, or equivalent. Three hrs. lect., 2 hrs. act. (Sp)

4450. Cultural Ecology (4)

The articulation of technology and physical-biotic environment within the scope of socio-cultural systems; balance or harmony in man-land relations; growth of ecological thought to include human activity. Prerequisite: Anth. 2300 or Geog. 2300 or equivalent. Cross-listed with Anth. 4450. (Sp)

4500. Historical Geography of Anglo-America (4)

Examination of the role played by geography, both physical and human, in the exploration, settlement, and utilization of selected areas of Anglo-America. Prerequisite: Geog. 1000 or 2300 or 3000. (W)

4510. Comparative Study of Arid Land Habitats (4)

Varying interpretations and utilization of arid and semi-arid environments by different cultural groups, problems of human adaptation to dry lands. Cross-listed with Anth. 4510. Prerequisite: One of the following—Anth. 3510, Geog. 3510, 3515, or 3530. (F)

4610. Geographic Exploration and Discovery (4)

Man's acquisition of knowledge about the earth's surface, from fortuitous discovery to planned scientific investigations, as exemplified by more accurate and detailed maps, charts, and aerial photographs. Prerequisite: Geog. 3300 or 3410 or one course in Geog. 3500 series. (Su)

ADVANCED—SPECIAL PROGRAMS

4700. Educational Geography (4)

Concepts of geography as applied to teaching techniques in the presentation of geographic instruction; coordination with other school curricula. Prerequisite: two courses in geography and acceptance in a teaching credential program or teaching experience. (W)

4800. Growth of Geographic Thought (4)

Seminar in history and philosophy of geography; its place among the sciences and humanities, major contributors to the development of modern scientific geography. Prerequisite: Geog. 3450 and senior standing. (F, Sp)

4900. Independent Study (1-4)

4920-4999. Directed Group Study (1-4)

GRADUATE COURSES

(For detailed descriptions of the following courses, see the Graduate Catalog.)

Geog. 6000. Seminar on Geographic Research (2)

Geog. 6010. Seminar on Research Theory and Philosophy of Geography (4)

Geog. 6100. Seminar in Physical Geography (3)

Geog. 6200. Seminar in Biogeography (3)

Geog. 6300. Seminar in Cultural Geography (3)

Geog. 6320. Seminar in Urban Geography (3)

Geog. 6400. Seminar in Historical Geography (3)

Geog. 6500. Seminar in Regional Geography (3)

Geog. 6600. Seminar in Cartography (3)

Geog. 6700. Seminar in Man's Role in Changing the Face of the Earth (3)

Geog. 6800. Seminar in Urban and Regional Planning and Development (3)

Geog. 6900. Independent Study (1-4)

Geog. 6910. Thesis Research (1-6)

Geog. 6920-6999. Directed Group Study (1-3)

Geology

See Earth Sciences, page 277.

German

See Foreign Languages, page 297.

Health Education

See Physical Education, page 358.

Hindi

See Foreign Languages, page 299.

History

Offered in the Department of History

1000. The Nature of the Study of History (4)

A seminar dealing with the nature of historical evidence, problems of historical interpretation and criticism, theories of history, bibliographical techniques and methods of research. (A)

1011. History of Europe I (4)

European history from ancient times through the High Middle Ages. Three hrs. lect., 1 hr. disc. (Y)

1012. History of Europe II (4)

European history from the later Middle Ages to the eve of the French Revolution. Three hrs. lect., 1 hr. disc. (Y)

1013. History of Europe III (4)

European history from the eve of the French Revolution. Three hrs. lect., 1 hr. disc. (Y)

1101. History of the United States to 1865 (4)

A survey of the development of the American nation from colonial times to the close of the Civil War. Credit for this course when combined with credit for Hist. 1102, meets statutory requirements in U.S. History, U.S. Constitution, and California State and Local Government. (A)

1102. History of the United States Since 1865 (4)

A survey of American history from the Civil War to the present. Credit for this course when combined with credit for Hist. 1101, meets statutory requirements in U.S. History, U.S. Constitution, and California State and Local Government. (A)

1108. History of the Americas to Independence (4)

A comparative history of the discovery and colonization of major areas of the New World to the wars of independence. Credit for this course when combined with credit for Hist. 1109, meets statutory requirements in U.S. History, U.S. Constitution, and California State and Local Government. Two hrs. lect., 2 hrs. disc. (Y)

1109. History of the Americas Since Independence (4)

A comparative history of the United States, Canada and the major states of Latin America since the wars of independence. Credit for this course when combined with credit for Hist. 1108, meets statutory requirements in U.S. History, U.S. Constitution, and California State and Local Government. Two hrs. lect., 2 hrs. disc. (Y)

ANCIENT AND MEDIEVAL

3101. Hellenic History (4)

Ancient Greece from the Bronze Age to the rise of Macedonia. (F)

3102. The Hellenistic Era and the Roman Republic (4)

The Mediterranean World from Alexander to Augustus. (W)

3103. The Roman Empire (4)

The Roman Empire from Augustus to Justinian. (Sp)

3105. Medieval Mediterranean Civilization: 527-1453 (4)

Analysis of the continuity and change in Mediterranean societies (Byzantine, Muslim and Western Christian). Attention directed toward comparative institutions and their economic and political relations. (F)

3106. Byzantine History: 527-1453 (4)

A study of the growth of the distinctive Byzantine civilization out of Christian, Graeco-Roman, and Oriental institutions and ideas. (W)

3115. Europe in the Early Middle Ages (4)

Political, social, intellectual, and economic evolution of Europe from the decline of the Roman Empire to about 1050. (W)

3116. Europe in the Later Middle Ages (4)

A continuation of Hist. 3115. Europe from the 11th century to the 15th century. (Sp)

4341. Rise and Spread of Islamic Civilization: 622-1050 (4)

(See course description under History, Asia.)

4342. Medieval Islamic History: 1050-1800 (4)

(See course description under History, Asia.)

MODERN EUROPE

4011. Readings in the Cultural and Intellectual History of Europe (4)

European thought in relation to its historical background. Readings, discussions and individual research. May be repeated once with another professor for additional credit. (F, W, Sp)

4021. European Economic and Social Institutions to 1750 (4)

From the manorial, peasant economy of medieval feudalism through the rise of European capitalist institutions and social classes to the Industrial Revolution in England. (F)

4022. European Economic and Social Institutions Since 1750 (4)

European industrial development and its impact on urban labor and rural peasantry. Imperialism, interwar problems, Soviet economic institutions, and the European revival since 1945. (W)

4125. The European Renaissance (4)

The culture of Italy, France, Spain, Germany, the Netherlands, and England of the 14th, 15th, and 16th centuries, in the relevant setting of general history. (W)

4126. The Reformation Era (4)

The Protestant revolt and the Catholic Reformation, studied in the context of the general revolution of European culture and society in the 16th century and against the background of medieval doctrine and heresy. (F, Sp)

4140. Early Modern Europe (4)

Europe from the end of the Reformation to the middle of the 18th century. (W)

4150. The Age of Enlightenment and Revolution (4)

Europe from the middle of the 18th century to 1815. (Sp)

4160. Europe in the 19th Century (4)

From Waterloo to Sarajevo. Development of dominant ideologies. (Sp)

4180. Europe in the 20th Century (4)

The transformation of traditional European institutions and values in the century of total war. (W, Sp)

4200. Tudor and Stuart England (4)

History of England from 1485 to 1689. The English Reformation and the growth of parliamentary institutions through the Glorious Revolution of 1688. (F)

4201. England, 1689–1815 (4)

English society in the time of the Enlightenment. The rise and growth of the British Empire through the American Revolution. The Napoleonic Wars. (W)

4202. England Since 1815 (4)

England in the era of rapid industrial growth. "Victorianism," expansion of democratic institutions, the "New Imperialism," the Commonwealth. Problems and prospects of contemporary British society. (Sp)

4215. Germany and East Central Europe from the Enlightenment to 1850 (4)

The history of Germany and her eastern neighbors from the mid-eighteenth to the mid-nineteenth centuries. (F)

4216. Germany and East Central Europe, 1815 to 1918 (4)

The history of Germany and her eastern neighbors from the mid-nineteenth century to the end of World War I. (W)

4217. Germany and East Central Europe from 1918 to the Present (4)

The history of Germany and her eastern neighbors since the end of the First World War. (Sp)

4221. History of Russia to 1855 (4)

Survey of the history of Kievan Rus, the Mongols, and the rise of Muscovy. Increasingly detailed coverage from the 16th to the mid-19th century with emphasis on the institutions of serfdom and autocracy and on the development of the Russian Empire. (F)

4222. History of Modern Russia, 1855–1917 (4)

Political, economic, social, and diplomatic developments from the Crimean War to the March Revolution. The "Great Reforms," reaction, the growth and diversification of the opposition movements—liberalism, socialism, Russian and non-Russian nationalism; the decay and collapse of the Monarchy. (W)

4223. History of the Soviet Union (4)

The revolutionary movement in Russia, Marxism-Leninism, the Provisional Government and the Bolshevik coup, domestic and foreign affairs under Lenin and his successors. (Sp)

4231. France During the Age of Absolutism, 1589–1715 (4)

The settlement of the religious wars; the absolutism of Richelieu, Mazarin, and Louis XIV. (F)

4232. France Under the Old Regime, The French Revolution and Napoleon (4)

The society of privilege; the French Enlightenment, the crisis of the monarchy; the French Revolution; the Napoleonic Reforms. (W)

4233. Modern France (since 1815) (4)

Social stability and political instability during the nineteenth century; French imperialism; the 3rd and 4th Republics; Charles DeGaulle and after. (Sp)

4343. History of the Near East and North Africa in the Nineteenth and Twentieth Centuries (4)

(See course description under History, Asia.)

ASIA**3300. The Ancient Orient (4)**

Introduction to traditional Oriental civilization from the earliest cities to the coming of the Western empire builders. (W)

3301. Modern Asia (4)

Oriental civilizations under the impact of the West, with emphasis on the development of China and Japan since the 19th century. (F, Sp)

4315. China to 1644 (4)

Traditional China to the fall of the Ming Dynasty. (F)

4316. China: 1644–1900 (4)

The political, social and economic impact of western civilization on China from the fall of the Ming dynasty to the Boxer Rebellion. (W)

4317. China Since 1900 (4)

Twentieth Century China with emphasis on revolutionary change in Chinese politics, economics and society. (Sp)

4325. Problems in Japanese History (4)

Intensive study of selected problems in Japanese history. May be repeated with permission of instructor. (Sp)

4326. Japan: Prehistory to 1477 (4)

Early archaeology and history, first political centralization, importation of Chinese culture, courtier society and civilization, the development of Japanese feudalism. (Y)

4327. Premodern Japan, 1477 to 1890 (4)

Civil war period and subsequent unification of country, the Tokugawa government, Christian missionaries in Japan, conflict with western imperialism, the Meiji Restoration. (Y)

4328. Modern Japan (4)

Emergence of Japan as an industrial and imperial power, concentrating on party politics, colonialism, militarism, and World War II. Post-war developments are also considered. (Y)

4331. History of India (4)

Survey of Indian history emphasizing Hindu culture, British rule, and the nationalist movement. (F)

4335. History of Southeast Asia (4)

Survey of Southeast Asian history, the infusion of Indian and Chinese culture, colonialism, and nationalist independence movements. (W)

4336. Problems in Southeast Asian History (4)

Intensive study of selected problems in Southeast Asian history. May be repeated with permission of instructor. (Sp)

4341. Rise and Spread of Islamic Civilization: 622-1050 (4)

Survey of pre-Islamic Near East, Muhammad, early Muslim conquests, Umayyad and 'Abbasid Caliphates. Emphasis is on the intellectual, institutional and cultural characteristics of traditional Muslim society. (F)

4342. Medieval Islamic History: 1050-1800 (4)

1050-1500: Turko-Mongol Domination, with emphasis upon central Asiatic invasions, mam-luk military organization, development of Islamic mysticism (Sufism); 1500-1800: The Four Rival Islamic Empires. (W)

4343. History of the Near East and North Africa in the Nineteenth and Twentieth Centuries (4)

Decline of Ottoman Empire and western influence; Rise of Republican Turkey, comparative patterns of colonial government, Arab nationalism, Zionism, Palestine problem, creation of Israel, "de-colonization." (Sp)

4350. Historical Literature of Asia (4)

An examination of Chinese, Japanese, Indian or Southeast Asian historiography. May be repeated with a different instructor. (A)

UNITED STATES**3400. American History (4)**

Political and social history of the United States from colonial times to the present. A survey of the transformation of an agrarian society into a complex industrial urban order. Satisfies statutory requirement in U.S. history. Not open to History and Social Science majors. (Su)

3411. The United States: Colonial Period (4)

The 13 Colonies: European background, settlement and expansion, and development to the Revolution. (Sp)

3412. The United States: American Revolution (4)

The struggle for independence, 1763-1789. Intensive study of the causes of the American revolution, Confederation period and the Constitution. (F)

3413. The United States: The New Nation (4)

Domestic and foreign problems of the new nation to 1846. (F, Sp)

3414. The United States: Civil War and Reconstruction (4)

Study of the Civil War, its causes and the reconstruction period. (F, Sp)

3415. The United States: Emergence of the Modern Nation (4)

The U. S. from 1877 to 1920. The rise of American industrialism, populism, imperialism, progressivism and World War I. (F, Sp)

3416. The United States: The New Deal Era (4)

Republican ascendancy through World War II. Origins of the Depression, Franklin Delano Roosevelt and the New Deal. (F, Sp)

3417. The United States: Recent American History (4)

The U. S. from 1945 to the present. Domestic problems and world leadership during the postwar era. (W)

3950. Puritan Civilization (4)

New England Puritan Civilization from its inception to its demise at the death of its last great representative, Jonathan Edwards. Cross-listed with Engl. 3950. (Y)

4500. The Westward Movement (4)

Westward expansion of the United States from 1763 to 1900; development of western states and effect on the history of the nation. (Y)

4504. The Mexican-American and the American Southwest (4)

The historical evolution of northern Mexico. Acquisition of the Southwest by the United States. Social, economic, and political development of the region, with emphasis on the role and social condition of the Mexican-American people. (Y)

4505. The Old South (4)

A historical analysis of the unique social, economic, political, and cultural developments of the antebellum South. (F)

4506. The South Since 1865 (4)

A historical analysis of social, economic, political and cultural developments in the South since the Civil War. (W)

4511. Intellectual History of the United States to 1865 (4)

American thought from the colonial period to the Civil War. The growth of political, religious, scientific, literary, and educational ideas. (F)

4512. Intellectual History of the United States Since 1865 (4)

American thought from the Civil War to the present. The growth of political, religious, scientific, literary and educational ideas. (Sp)

4513. American Social History to 1865 (4)

The development of American society from 17th century origins to the Civil War; social mobility, class structure, social movements, and institutions in American life. (Y)

4514. American Social History Since 1865 (4)

The development of American society from the Civil War to date; social mobility, class structure, social movements, and institutions in American life. (Y)

4515. The Black Man in American History to 1877 (4)

Intensive study of the interaction between Black and White Americans to 1877; African origins, slavery, Black protest and rebellion, abolition movements, and Black participation in and contribution to society. (F)

4516. The Black Man in American History Since 1877 (4)

Intensive study of the interaction between Black and White Americans since 1877; segregation, betrayal of the Blacks, the rise of Black Nationalism, the non-violent revolution. (W)

4521. History of American Economic Institutions from Federal Beginnings to 1865 (4)

The family, agriculture, corporations, transportation, finance, and government policy to the Civil War emphasizing the transformation of America from a traditional to a modern economy. (F)

4522. History of American Economic Institutions Since 1865 (4)

Agriculture, labor and business in an urban-industrial society; impact of technology, war, and reform on the economy. America's role in the world market. (W)

4525. United States Urban History to 1900 (4)

City in history since colonial period with emphasis on forces which established social, economic, political and demographic patterns of American urban growth in the nineteenth century. (F)

4526. United States Urban History Since 1900 (4)

The city in the twentieth century with emphasis on social, political, economic, and environmental problems of recent urbanization, metropolitan growth, and rise of urban planning. (W)

4527. Women in American History (4)

Survey of women's place in the social, economic, and political life of the nation from colonial times to the present. (Y)

4530. Diplomatic History of the United States to 1898 (4)

The colonial origins of American foreign policy and analysis of the diplomatic history of the United States from the American Revolution to the post-Civil War decline in foreign interest. Cross-listed with Pol.Sci. 4530. (F)

4531. Diplomatic History of the United States Since 1898 (4)

Analysis of the foreign policies and diplomatic history of the United States from the Spanish-American War to the present. Cross-listed with Pol.Sci. 4531. (W)

4532. Inter-American Relations (4)

The diplomatic and cultural relations of the United States and Latin America from the colonial period to the present, emphasizing the development of the Western Hemisphere idea. The Enlightenment, Monroe Doctrine, Pan Americanism, Drago Doctrine and Castroism. (Sp)

4540. History of California (4)

California history from early Spanish occupation to the present, emphasizing the influence of geography, natural resources, and a growing population. Satisfies requirement in California state and local government. (F, Sp)

4550. Historical Literature of the United States (4)

An investigation of historical thought in the United States. Major writers, methods of historical writing, and historical interpretations. May not be substituted for Hist. 4030. (Sp)

4690. Senior Seminar in American Studies (2)

Interdisciplinary seminar in topics in American civilization. Open only to seniors in American Studies. Concurrent enrollment for 2 units of Hist. 4900 required. May be repeated for credit with consent of instructor. (Y)

LATIN AMERICA**3600. Latin America: Colonial Period (4)**

Discovery, conquest, and settlement of Latin America; independence; evolution of society and institutions to 1825. (F)

3601. Latin America: Since 1825 (4)

Political, economic, and social development of the Latin American nations in the 19th and 20th centuries. (W)

4532. Inter-American Relations (4)

(See course description under History—United States.)

4609. Mexico to 1821 (4)

Pre-Columbian civilizations, the Spanish conquest and development of colonial society and institutions. The independence movement. (Y)

4610. Mexico Since 1821 (4)

The development of Mexico since independence; evolution of political, economic, and social institutions. (Sp)

4625. The Nations of Southern South America (4)

The Platine nations and Chile since independence; democracy and dictatorship, economic and social evolution, the impact of nationalism. (Sp)

4630. Colonial Brazil (4)

Portuguese origins of Brazilian colonization, the formation of a tropical society, development of political institutions, economic transformation and the basis of social and cultural uniqueness; independence. (F)

4631. Brazil Since Independence (4)

Political and economic development from the Empire to the present; social diversity and emergence of a distinctively Brazilian culture. (W)

4641. The Intellectual History of Colonial Latin America (4)

The blending of Indian, European, and African cultures in Latin America to Independence. (F)

4642. The Intellectual History of Modern Latin America (4)

The blending of Indian, European, and African cultures in Latin America since Independence. (W)

4645. Social and Economic History of Latin America to 1850 (4)

A comprehensive study of the development of social and economic institutions, movements, and changes to 1850. (F)

4646. Social and Economic History of Latin America since 1850 (4)

A comprehensive study of the development of social and economic institutions, movements, and changes since 1850. (W)

GENERAL

1920-1999. Directed Group Study (1-4)

3011. Philosophy of Science (4)

(See Phil. 3011 for course description.)

3012. History of Science (4)

(See Phil. 3012 for course description.)

4000. Contemporary World Problems (4)

World affairs from 1914 to the present; present foreign policies of the major powers in their historical, political, and economic setting; events leading to World War II; the United Nations; current major issues. (F, Sp)

4030. Historiography (4)

A critical study of the development of historical writing from classical antiquity to the present. Prerequisite: Consent of instructor. (A)

4031. Proseminar in Historical Method (4)

Introduction to the methods of historical research through the preparation of a research paper. Prerequisite: senior standing and consent of instructor. (A)

4032. Senior Honors Seminar (4)

A senior seminar on historiography and the philosophy of history. Open only to senior students in the History Honors Program. (Sp)

4711. Ancient and Medieval Political Thought (5)

(See Pol. Sci. 4711 for course description.)

4712. Early Modern Political Thought (5)

(See Pol. Sci. 4712 for course description.)

4801-4899. Special Problems in History (1-4)

Readings, discussion and research on significant historiographical problems. Prerequisite: consent of instructor.

01. Italian Culture in the 14th Century (Tent. Y)
02. U.S. Nationalism (Tent. Y)
03. Baroque Culture (Tent. Y)
04. Social Revolution in China (Tent. Y)
05. U.S. Historiography (Tent. Y)
07. Machiavelli (Tent. Y)
08. Failures of the Republic of China (Tent. Y)
09. Am. Biography 19th Century (Tent. Y)
10. U.S. Urban Police (Tent. Y)
11. History American Poverty (Tent. Y)
12. The Irish Question (Tent. Y)
13. Origins of Cold War (Tent. Y)
14. Radical U.S. History (Tent. Y)
15. Mexican Identity (Tent. Y)
16. City Boss & Reformation (Tent. Y)
17. Intervention of Russia WW I (Tent. Y)
18. California Indians-White Relations (Tent. Y)
19. Scientific Exploration of Latin America (Tent. Y)
20. Salem Witchcraft (Tent. Y)

21. U.S. in the 1950's (Tent. Y)
22. The Crusades (Tent. Y)
23. U.S. and World War I (Tent. Y)
24. History of Christianity (Tent. Y)
25. Imperialism—Asia (Tent. Y)
26. World War I—July Crisis (Tent. Y)
27. Black Man in California (Tent. Y)
28. Images of American Politics (Tent. Y)
29. Social Changes in Latin America (Tent. Y)
30. Origins of Chicano Culture (Tent. Y)
31. Special Problems in California History (Tent. Y)
32. South and Progressives (Tent. Y)
33. Israelis and Arabs (Tent. Y)
34. Divine Kingship (Tent. Y)
35. Polities and Protest in the 60's (Tent. Y)
36. Ming-Ching Society (Tent. Y)
37. History of American West (Tent. Y)
38. Film and History (Tent. Y)
39. Russian Revolution (Tent. Y)
40. Renaissance in Political Theory (Tent. Y)

4900. Independent Study (1-4)

Supervised study. Prerequisite: consent of instructor. (F, W, Sp)

4920-4999. Directed Group Study (1-4)

GRADUATE COURSES

(For complete course descriptions of the following courses see the Graduate Catalog.)

Hist. 6010. Seminar in Modern American History (5)

Hist. 6030. Graduate Historiography (4)

Hist. 6100. Conference Course in Ancient and Medieval History (4)

Hist. 6200. Conference Course in European History (4)

Hist. 6300. Conference Course in Asian History (4)

Hist. 6400. Conference Course in United States History (4)

Hist. 6500. Conference Course in Latin American History (4)

Hist. 6801. Seminar, Designing, Preparing, and Teaching the History Curriculum: Bibliography (4)

Hist. 6802. Seminar, Designing, Preparing, and Teaching the History Curriculum: Curricula Methods, Evaluation (4)

Hist. 6803. Seminar, Designing, Preparing, and Teaching the History Curriculum: Developing and Teaching the History Unit (5)

Hist. 6811. Seminar: Historical Area Study for Teachers (5)

Hist. 6812. Seminar: Developing the School History Curriculum (5)

Hist. 6900. Independent Study (1-4)

Hist. 6910. Thesis Research (1-4)

Hist. 6920-6999. Directed Group Study (1-4)

Italian

See Foreign Languages, page 299.

Japanese

See Foreign Languages, page 300.

Journalism

See Mass Communication, page 330.

Italian

See Foreign Languages, page 258.

Japanese

See Foreign Languages, page 259.

Journalism

See Mass Communication, page 282.

Latin

See Foreign Languages, page 300.

Latin American Literature

See Spanish in Foreign Languages, page 305.

Library

(Offered as a General Studies course by the Library staff)

1500. Self-Directed Course in Library Skills (1)

Introduction to Library facilities. Development of skills in the use of library resources. (A)

Management Sciences

Offered in the Department of Management Sciences

3100. Introduction to Quantitative Methods in Business (5)

A survey of linear programming, transportation models, CPM/PERT, deterministic inventory models, and decision analysis. Emphasis on problem formulation and applications. Prerequisites: Stat. 2010, Math. 1803 or 1305, Acctg. 2270. Restricted to undergraduates. Four hrs. lect., 2 hrs. act. (A)

3300. Seminar in Financial Management (4)

Theory and practices that underlie the financial manager's decision-making process. Financial statement analysis, budget, and sources, costs, and application of enterprise capital. Prerequisites: Math 1801, Acct. 2251-2, Econ. 2301-2. (A)

3320. Capital Markets and Financial Institutions (4)

Examination and analysis of the major U.S. capital markets, role of financial intermediaries, theory underlying capital market operations, and selected case studies. Prerequisite: Mgmt. 3300. (Y)

3600. Theories of Management (4)

Management is viewed as a process involving the utilization of human resources to accomplish organizational objectives. Critical analysis of descriptive and normative theories of formal organization, including a consideration of organization structure, communications, planning, and control. (A)

3610. Personnel Administration (4)

Principles and methods of personnel work; employee recruitment, selection, training, promotion, transfer, and wage and salary administration. Prerequisite: Mgmt. 3600. (A)

3614. Organizational Behavior (4)

Current theory and research of individual and small group behavior in the organization. Prerequisites: Psych. 2000, Mgmt. 3600. Three hrs. lect., 2 hrs. act. (A)

3616. Personnel Evaluation (4)

Procedures in selecting, placing, and evaluating employees. Topics include interviews, ability and psychological tests, innovative assessment methods, and organizational use of testing specialists and services. Prerequisites: Psych. 2000, Stat. 2010, Mgmt. 3600 (F, W, Sp)

3620. Introduction to Production Operations (4)

Analysis of production operations in manufacturing and service enterprises. Traditional approach to such areas as production planning, inventory control, and quality control is combined with the application of quantitative tools including game theory, PERT, statistical quality control and linear programming. Prerequisite: Mgmt. 3100. (F, W)

3640. Production Systems (4)

A study in depth into selected production control areas including production efficiency, forecasting, inventory control, production planning and control, and the use of computers. Prerequisite: Mgmt. 3620. (W, Sp)

3645. Logistics Management (4)

Analysis of physical distribution. Methods of logistics analysis and planning. Prerequisites: Mgmt. 3600 and 3620. (F)

3680. Industrial Relations (4)

The study of labor-management relations: the labor force, labor law, collective bargaining, grievance procedures, and the development of industrial relations policy. (A)

4310. Seminar in Investment Analysis (4)

Investment analysis logic and its application to business investment problems. Research on risk of investment, nature of securities and securities markets. Prerequisites: Mgmt. 3300. (A)

4320. Problems in Corporate Finance (4)

Seminar in utilization of financial data in solving specific problems in corporate financial decision-making and policy formulation. Study of current trends in financial management. Prerequisite: Mgmt. 3300. (A)

4370. Senior Studies in Financial Theory (4)

Research and analysis of varying viewpoints concerning financial management; examination of traditional and contemporary theoretical explanations of finance. Prerequisites: Mgmt. 4320, and Senior or Graduate Standing. (Y)

4500. Business, Government and Society (4)

The relationships between business managers and the social, economic, and political environment within which they operate; business ethics, antitrust policy, social responsibility, and consumer protection. (A)

4600. Technological Innovation and Research Management (4)

Seminar on analyses of the process of technological innovation and its management. Students will develop plans and evaluative techniques for an industrial research and engineering development program. Prerequisites: Mgmt. 3300, 3600. (Sp)

4613. Research Methods Seminar in Personnel Administration (4)

Seminar on personnel or organizational behavior; research methodology. Students will design and complete individual or group projects. Prerequisites: Mgmt. 3610, 3614; Psych. 3200. (Sp)

4650. Seminar in Managerial Planning and Control (4)

Development of complex capital expenditure, marketing, and production plans and accompanying budgets and forecasts and their integration into a corporate plan and control system. Prerequisites: Acct. 3200 or 3232; Mgmt. 3100, 3300, 3600, 4500; Mktg. 3401. Restricted to seniors. (A)

4670. Multinational Business (4)

A study of the leading technical, environmental, and management features peculiar to the operation of U.S. firms in foreign countries. Prerequisites: Mgmt. 3600, Mktg. 3401. (A)

4683. Research in Labor Relations (4)

Seminar on application of research methods to the preparation for collective bargaining and negotiating union-management agreements. Students will design and conduct a labor-relations research term project. Prerequisites: Mgmt. 3600, 3680. (F)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****5100. Graduate Introduction to Quantitative Methods in Business (5)**

A graduate level survey of linear programming, transportation models, CPM/PERT, deterministic inventory models, and decision analysis. Emphasis on problem formulation and applications. Prerequisites: Stat. 2010, Math. 1803, Acct. 2270. Four hrs. lect., 2 hrs. act. (A)

5694. Seminar in the Deterministic Techniques of Quantitative Business Methods (4)

Seminar in the techniques of linear programming, network models, deterministic inventory and production models, and deterministic dynamic programming. Prerequisites: Math. 1803 or 2304; Stat. 2010 or 3401; Math. 1710 or Acct. 2270; and consent of instructor. (Y)

5695. Seminar in Probabilistic Techniques of Quantitative Business Methods (4)

Seminar in the techniques of probabilistic inventory and production models, probabilistic dynamic programming, simulation, queuing models, Markov Chains and decision analysis. Prerequisite: Mgmt. 5694.

GRADUATE COURSES

(See the Graduate Catalog for complete descriptions of the following courses.)

Mgmt. 6010. Business and Economic Forecasting (4)**Mgmt. 6100. Quantitative Methods in Business (4)****Mgmt. 6300. Seminar in Financial Management (4)****Mgmt. 6310. Seminar in Security Valuation (4)****Mgmt. 6315. Portfolio Analysis and Evaluation (4)****Mgmt. 6320. Studies in Capital Markets (4)****Mgmt. 6325. The Financial Management of Banking Institutions (4)****Mgmt. 6500. Business and Society (4)****Mgmt. 6550. Research Methods and Communications (4)****Mgmt. 6603. Seminar in Management Decision Making Under Uncertainty (4)****Mgmt. 6604. Seminar in Quantitative Business Methods Applications (4)****Mgmt. 6610. Seminar in Personnel Administration Research (4)****Mgmt. 6619. Seminar in Advanced Techniques of Quantitative Business Methods I (4)****Mgmt. 6620. Seminar in Advanced Techniques of Quantitative Business Methods II (4)****Mgmt. 6621. Seminar in the Design and Use of Computer Simulation Models (4)****Mgmt. 6625. Seminar in Business Computer System Applications (4)****Mgmt. 6626. Seminar in Management Sciences/Operations Research (4)****Mgmt. 6630. Seminar in Organization Theory (4)****Mgmt. 6650. Seminar in Business Policy (4)****Mgmt. 6670. Management of the Multinational Firm (4)****Mgmt. 6680. Seminar in Labor-Management Relations Administration (4)****Mgmt. 6900. Independent Study (1-4)****Mgmt. 6910. Thesis or Individual Research (1-5)****Mgmt. 6920-6999. Directed Group Study (1-4)****Marine Sciences ***

Courses offered through the Departments of Biological Science and Earth Sciences at the Moss Landing Marine Laboratories

Offered through the Department of Biological Science**4102. Marine Science Techniques (3)**

Introductory field and laboratory practice in techniques for collection, analysis and interpretation of data on the marine environment. Prerequisites: Chem. 1101,-2,-3, Math. 1130, MSc. 4101 (or concurrent registration) or ESc. 3400. Two hrs. lect., 3 hrs. lab. (A)

4103. Marine Ecology (4)

A field-oriented introduction to the interrelationships between marine and estuarine organisms and their environment with emphasis on quantitative data collection and analysis. Prerequisites: Biol. 3110, Stat. 2400 or equivalent and consent of instructor. Two hrs. lect., 6 hrs. lab/field. (A)

4105. Marine Science Diving (3)

Skin and SCUBA diving; five ocean dives include underwater sampling and survey techniques. Successful completion gives N.A.U.I. and M.L.M.L. certifications. Not for major credit. Prerequisites: Upper division science major and pass swimming test. One and one-half hrs. lect., 4½ hrs. lab. (A)

* Courses listed under Marine Sciences are offered on a semester basis in the fall and spring. Each unit is credited as 1½ quarter units. In the summer courses are operated on a quarter basis, and units are credited as shown. See page 208.

4106. Scuba Marine Research (3)

SCUBA techniques for ocean and estuarine environmental research; instruction and field projects in underwater navigation and mapping, temporary and permanent transect, installation and analysis, tagging of invertebrates and fishes, and general underwater work. Prerequisites: MSc. 4105 or equivalent and consent of MLML Diving Control Board. One hr. lect., 6 hrs. lab. (A)

4111. Zoology of Marine Vertebrates (4)

A field-oriented study of natural history, ethology, physiology, identification, and systematics of vertebrates living in or associated with marine, estuarine, and shore communities; emphasis upon interrelationships of organisms with these environments. Prerequisites: Biol. 1101, -2, -3 or equivalent, MSc. 4103. Two hrs. lect., 6 hrs. lab. (F, Sp, on demand)

4112. Marine Birds and Mammals (4)

Systematics, morphology, ecology, and biology of birds and mammals. Prerequisites: MSc. 4111 or Biol. 3580, or consent of instructor; MSc. 4103 recommended. Two hrs. lect., 6 hrs. lab./field. (Sp, on demand)

4113. Marine Ichthyology (4)

The taxonomy, morphology, and ecology of marine fishes. Not open to students who have taken Biol. 4570. Prerequisites: Biol. 1102, MSc. 4111 or Biol. 3580. Two hrs. lect., 6 hrs. lab./field. (Sp, on demand)

4121. Marine Invertebrate Zoology (4)

A field-oriented introduction to the anatomy, embryology, systematics and evolution of the marine invertebrate groups; emphasis on field observation, identification and systematics. Not open to students who have taken Biol. 4521, -2. Prerequisites: Biol. 1102; MSc. 4103 recommended. Two hrs. lect., 6 hrs. lab./field. (Sp, Su, on demand)

4122. Marine Invertebrate Embryology (4)

Principles of developmental biology, emphasizing experimental studies of invertebrates. Laboratory observations will cover embryology of lower invertebrates, mollusks, crustacea, echinoderms, and protochordates. Prerequisites: MSc. 4121 or Biol. 3521 and 3522, or consent of instructor. Two hrs. lect., 6 hrs. lab. (Sp alt., on demand)

4123. Marine Invertebrate Physiology (4)

Comparative physiology of invertebrates; laboratory problems on nutrition, respiration, osmotic regulation, coordination and other physiological functions. Discussion of general principles of physiology, using examples from invertebrate phyla. Not open to student having Biol. 4501 or 4502. Prerequisites: MSc. 4121 and Biol. 3150 or consent of instructor. Two hrs. lect., 6 hrs. lab. (F alt., on demand)

4131. Marine Phycology (4)

The biology of marine algae with emphasis on identification, life histories, ecology, and systematics. Prerequisites: Biol. 1103; MSc. 4103 recommended. Two hrs. lect., 6 hrs. lab./field. (F, Sp, on demand)

4132. Introduction to Marine Plankton (4)

Identification, distribution and ecology of phytoplankton and zooplankton. Introduction to sampling and analytical procedures. Prerequisites: ESc. or MSc. 3400; MSc. 4103 recommended. Two hrs. lect., 6 hrs. lab./field. (F, on demand)

4171. Oceanographic Summer Cruise (4)

Oceanographic shipboard research. Cruise planning, logistics, implementation. Analysis of samples and data interpretation. Written report. Prerequisites: MSc. 4101, 4102. One hr. lect., 9 hrs. lab. (Y).

4172. Marine Environment Group Research (3)

Student involvement in scientific investigations. Employment of scientific methodology and principles; literature surveys, and experience in writing and presenting research findings on specific projects. Prerequisites: ESc. 3400, MSc. 4102, MSc. 4103, Stat. 3031. One hr. lect., 6 hrs. lab./field. (On demand)

4175. Topics in Marine Science (3-4)

An advanced undergraduate course in a special subject area: lecture, discussion, laboratory, and field components; topics change each semester. May be repeated once for credit. Prerequisites: Consent of instructor. One to 3 hrs. lect., 3 or 6 hrs. lab./field. (On demand)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****5201. Concepts of Marine Science (3)**

(See Science Education section for course description.)

GRADUATE COURSES

(For detailed descriptions of the following courses, see the Graduate Catalog.)

MSc. 6202. Marine Instrumental Analysis (4)**MSc. 6203. Advanced Marine Ecology (3)****MSc. 6211. Behavior of Marine Animals (3)****MSc. 6212. Topics in Marine Vertebrates (4)****MSc. 6221. Topics in Marine Invertebrates (4)****MSc. 6222. Biology of the Mollusca (4)****MSc. 6231. Advanced Marine Phycology (4)****MSc. 6232. Advanced Marine Plankton (4)****MSc. 6241. Marine Micropaleontology (3)****MSc. 6252. Topics in Marine Chemistry (4)****MSc. 6271. Population Biology (3)****MSc. 6273. Environmental Studies of Monterey Bay Area (3)****MSc. 6275. Advanced Topics in Marine Science (2-5)****MSc. 6285. Graduate Seminar in Marine Biology (2)****MSc. 6900. Independent Study (1-4)****MSc. 6910. Thesis Research (1-9)****MSc. 6920-6999. Directed Group Study (1-4)**

Offered Through the Department of Earth Sciences

4101. General Oceanography (4)

An interdisciplinary examination of physical and chemical characteristics of seawater, distribution and effects of ocean currents, geology of the ocean floor, and relations of organisms to the marine environment. Not open to students who have completed ESc. 3400. Prerequisites: college chemistry and biology. Three hrs. lect., 3 hrs. lab. and field. (F, Sp. Sem.; Su. Qtr.) (See also ESc. 3400 given at Hayward.)

4102. Marine Science Techniques (3)

Introductory field and laboratory practice in the techniques for collection, analysis and interpretation of data on the marine environment. Prerequisites: Chem. 1103 and Math. 1130, and MSc. 4101 (or concurrent registration) or Earth Sci. 3400. Two hrs. lect., 3 hrs. lab. (A)

4141. Geological Oceanography (3)

A study of the structures, physiography and sediments of the sea bottom and shoreline. Prerequisite: general oceanography (concurrent registration satisfactory). Two hrs. lect., 3 hrs. lab. and field. (Sp. Sem.)

4142. Marine Biogenic Sedimentation (3)

Interdisciplinary studies of the provenance, biologic and geologic composition of marine sediments and of the organisms contributing to their formation. Sedimentary processes affecting these sediments. Prerequisite: MSc. 4101 and college geology and biology. Two hrs. lect., 3 hrs. lab. and field. (A)

4143. Coastal Geomorphology (3)

A geologic history and formation of the shoreline. Prerequisites: physical geol. or phys. geography. Two hrs. lect., 3 hrs. lab. (A)

4151. Marine Meteorology (3)

Introductory discussion of the interaction between ocean and atmosphere including exchange of heat, momentum and particles and their influence on waves and currents and on weather and climate. Prerequisite: M.Sc. 4101. Two hrs. lect., 3 hrs. lab. (A)

4171. Oceanographic Cruise (4)

Oceanographic shipboard research. Cruise planning, logistics, implementation. Analysis of samples and data interpretation. Written report. Prerequisites: M.Sc. 4101, 4102. One hr. lect., 9 hrs. lab. (Y)

4410. Physical and Chemical Oceanography (4)

Quantitative description of physical and chemical properties in the oceans. Relationship between these properties and physical, chemical, and biological processes in the oceans. Prerequisites: Math. 1303, Chem. 1103, E.Sc. 3400 or equivalents or consent of instructor. Three hrs. lect., 3 hrs. lab. and field. (Y)

4510. Micropaleontology (3)

A study of fossil micro-organisms with emphasis on stratigraphic and environmental significance of Foraminifera. Prerequisites: introductory course work in geology or zoology. Two hrs. lect., 3 hrs. lab. (Sp. Sem.)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)**

Marketing

Offered in the Department of Marketing

3401. Micro-Marketing (4)

A marketing management study of the major internal and external variables in the design of a marketing program. Prerequisite: Econ. 2301. (A)

4410. Advertising (4)

Marketing and economic functions of advertising with emphasis on psychological and statistical aspects; includes media, copy, layout, and research. Prerequisite or concurrent: Mktg. 3401. (F, Sp.)

4420. Sales Analysis and Sales Management (4)

Analytical problems of selling goods and services; management of the sales function. Prerequisite or concurrent: Mktg. 3401. (F, W)

4430. Problems and Policies of Middlemen (4)

Management problems and approaches in wholesale-level and retail-level units. Prerequisite or concurrent: Mktg. 3401. (F)

4440. Quantitative Methods in Marketing (4)

Application of statistical analysis and selected quantitative models to marketing problems. Prerequisite: Mgmt. 3100; prerequisite or concurrent: Mktg. 3401. (W, Su)

4450. Marketing Seminar (4)

Selected topics emphasizing the integration of marketing literature with current business practices through seminar discussions and individual field investigations. May be repeated for credit with approval of the Department. Prerequisite: Mktg. 3401 and consent of instructor. (Tent. Sp.)

4460. Man and Exchange (4)

Societal view of distribution; economic base for exchange; barriers to exchange; exchange in different societies; criticisms, defenses, regulation of American marketing system including consumerism movement. Prerequisite: Upper division standing. Four hrs. lect./disc. (Y)

4470. International Marketing (4)

Marketing management problems and techniques in international business. Prerequisite: Mgmt. 4670; prerequisite or concurrent: Mktg. 3401. (Y)

4480. Business Decisionmaking in Simulated Environments (4)

Teams will compete in business decisionmaking in simulated business environments. Oral and written reports supporting each decision round will be required. Prerequisites: Mgmt. 3600 and Mktg. 3401. Recommended: Acctg. 3200, Econ. 3551, and Mgmt. 3300. Two hrs. lect., 4 hrs. act. (F, Sp.)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****5405. Seminar in Managerial Marketing (4)**

Examination of marketing decision-making principles in dynamic market situations with casework assignments carrying individual and group responsibility for the oral presentation and discussion of strategy recommendations. Prerequisites: Graduate standing with no undergraduate Marketing Management course; prerequisite or concurrent: Econ. 5550 or consent of instructor. Four hrs. seminar. (A)

GRADUATE COURSES

(See the Graduate Catalog for complete descriptions of the following courses.)

Mktg. 6401-02. Marketing Research I, II (5,5)**Mktg. 6410. Seminar in Consumer Behavioral Theory (4)****Mktg. 6420. Seminar in Marketing Policy (4)****Mktg. 6430. Seminar in Marketing Logistics (4)**

Mktg. 6450. Seminar in Selected Marketing Topics (4)

Mktg. 6900. Independent Study (1-4)

Mktg. 6910. Thesis (1-5)

Mktg. 6920-6999. Directed Group Study (1-4)

Mass Communication

Offered in the Department of Mass Communication

1920-1999. Directed Group Study (1-4)

2000. Introduction to Mass Communication (4)

Survey of the social and economic structure of the communications media; roles of audience, media, and government in shaping communication policies. (A)

2220. Media Laboratory (2)

A supervised laboratory experience in preparing news content of university student publications, and closed circuit television productions. Prerequisite: basic experience or course work in media practices. May not be repeated (see MCom. 3220). Six hrs. lab. (F)

2700. Introduction to Photography (4)

Fundamental theory and practice of photography as medium of communication. Basic course for students planning application in art, science, photojournalism. Prerequisite: Consent of instructor. Two hrs. lect., 6 hrs. lab. (F, W, Sp)

3001. Process of Mass Communication I (5)

Critical study of the content, style, format and modes of presentation of the mass media. Practice in writing in styles of various print and broadcast media. Prerequisite: Sophomore standing and typing skill. Three hrs. lect., 4 hrs. act. (F, W)

3002. Process of Mass Communication II (5)

Sources of information and the mass media. Dynamics of interviewing; analysis of public records; open-channel media. Practice in interviewing and writing. Prerequisite: MCom. 3001. Three hrs. lect., 4 hrs. act. (W, Sp)

3110. Law of Mass Communication (4)

Basic description of laws relating to defamation; contempt; invasion of privacy; obscenity; copyright and postal regulations; media competition; and consumer protection. (Y)

3120. Language of Cinema (4)

Theories of visual imagery, non-verbal communication, and editing, related to evolution of cinema as a mass medium. Evaluation of news and documentary films and television. Prerequisite: MCom. 3001, or consent of instructor. (Y)

3130. Broadcast News and Documentary Production (4)

Principles of planning radio and television public affairs programming. Practice in writing broadcast news and continuity. Control room procedures and floor direction. Prerequisites: MCom. 3001-3002. Two hrs. lect., 4 hrs. act. (Sp)

3220. Media Workshop (2)

Preparation of content of university student publications and closed circuit television productions. Prerequisites: MCom. 3001-3002. Six hrs. lab. May be repeated for maximum of six units, including two units of MCom. 2220, if taken. (A)

3240. Public Opinion (4)

The relationship of public opinion and the mass media. Attitude change in public affairs, education, and propaganda. Practice in conducting and interpreting opinion surveys. Prerequisites: An introductory course in sociology or psychology, and Stat. 1000; or consent of instructor. (Y)

3310. Publication Editing (4)

Study of traditional and innovative approaches in editing content of newspapers, magazines, industrial publications and alternative media; role of reader interests in determining editing policy. Prerequisites: MCom. 3001-3002. Three hrs. lect., 2 hrs. act. (Y)

3330. Television Editing (4)

Study of editing style in television news and documentaries, feature films, and commercials. Practice in editing techniques for videotape recording. Prerequisites: MCom. 3001 and 3120. Two hrs. lect., 4 hrs. act. (Y)

3340. Graphic Communication (4)

Study of various modes of non-verbal communication through media, with emphasis on the still photograph. Uses of typography, layout, symbols in creating visual style; trademarks, logotypes, and graphic themes. Prerequisites: MCom. 2700, 3001-3002. Three hrs. lect., 2 hrs. act. (Y)

3410. Feature Writing (4)

Writing feature articles, news analysis, and specialized broadcast reports distinguished from straight news reporting. Analysis of writing problems and style. Interpretive interviews and profiles. Prerequisites: MCom. 3001-3002. (Y)

3520. Advertising and the Public Interest (4)

Advertising considered from the point of view of the consumer and public policy. Effects on editorial and programming strategies of media. Practice in basic principles of print and broadcast advertisement preparation. Three hrs. lect., 2 hrs. act. (Y)

3700. Development of Mass Media in America (4)

The historical development of the mass media, examining social and technological influences on current practices. Study of trends in policies of government and media ownership. (F, W, Sp)

4050. Theories of Mass Communication (4)

A survey of theories of human communication behavior related to the mass media. Characteristics of mass audience and media channels; strategies of influence. Prerequisite: Psych. 2000 or Soc. 2000; or consent of instructor. (Y)

4110. International Communication (4)

Comparative study of media systems of other nations and cultures. Effects of international networks, satellite communications, and other technological developments on communication policies. Prerequisite: Ability to read a foreign language. (Y)

4230. Research Methods in Mass Communication (4)

Experimental and survey methods of collecting data on the process and effects of mass communication. Each student will design and carry out an individual project. Prerequisite: MCom. 3240; or consent of instructor. Three hrs. lect., 2 hrs. act. (Y)

4450. Investigative Reporting (4)

A course conducted under field conditions to prepare the advanced student for gathering information on complex political, social, economic and ecological topics. Prerequisites: MCom. 3001-3002. (Y)

4540. Senior Seminar in Mass Communication (4)

Discussion and analysis of current issues involving the mass media. Students will develop a background report for presentation to the seminar. Open only to majors in Mass Communication. Prerequisite: Senior standing. (Y)

4650. Media Internship (2-4)

On-the-job experience with newspapers, industrial publications and broadcast media in the Bay Area. Eight-sixteen hrs. weekly. Prerequisite: consent of instructor. (A)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****5200. Mass Media and the Teacher (4)**

The role of mass communication in the public schools curricula; methods and procedures for teaching mass media and journalism classes in the secondary schools. Eight hrs. (Sp)

Mathematics

Offered in the Department of Mathematics

1100.* Intermediate Algebra (4)

Basic algebraic concepts and skills. (A)

1110. Introduction to Mathematical Ideas (4)**

Designed to give the student an appreciation of the power and scope of mathematics; topics from contemporary mathematics. Designed to satisfy general education requirements for non-majors. No prerequisite. (A)

1130. College Algebra (4)

A college algebra course to prepare students for Math. 1300. Properties of real numbers, relations, functions, exponential and logarithmic functions, complex numbers. Prerequisite: Intermediate algebra or satisfactory placement test score. (A)

1300. Elementary Functions and Coordinate Geometry (4)

Concept of function, basic analytic geometry, definitions, properties, and graphs of polynomials, rational functions, trigonometric functions, exponential and logarithmic functions. A preparatory course for calculus. Prerequisites: Two years high school algebra, one year high school geometry. (A)

1304. Calculus I (4)

Differential calculus. Technique of differentiation; logarithmic, exponential, trigonometric, and inverse trigonometric functions, implicit method. Graphing, maxima and minima, concavity. Mean Value Theorem. Related Rates. Prerequisites: Math. 1300 or equivalent. (A)

1305. Calculus II (4)

Plane curves and motion. Mean Value Theorem, Taylor's formula. Integral calculus: Area and indefinite integral, the Fundamental Theorem. Techniques of integration: trigonometric substitution by parts, partial fractions. Application to volume, arc length, area of surface of revolution. Prerequisite: Math. 1304. (A)

* Students with two years of high school mathematics should take Math. 1130.

** Upper-division mathematics majors may not receive credit for this course.

1700. Elementary Computer Programming (4)

Elementary lecture course in computers and programming. Elementary machine-oriented language with emphasis on problem-oriented language. Use of College computing facilities. Not open to mathematics or physical sciences majors. Students may not receive credit for both Math. 1700 and 1710. Meets general education requirement in mathematics. Prerequisite: One year high school algebra. (A)

1710. Introductory Computer Programming (4)

Computer programming in algebraic language. Analysis of numerical problems and development of algorithms for their solution. Intended for mathematics or physical sciences majors. Use of College computing facilities. Students may not receive credit for both Math. 1700 and 1710. Prerequisite: Intermediate algebra and trigonometry. (Y)

1801. Mathematics for Social and Life Sciences I (4)

Introduction to sets, relations, functions, permutations, combinations, solutions of equations, trigonometric, logarithmic and exponential functions, data plotting and interpretation. Prerequisite: Two years of high school algebra and an acceptable score on placement test administered at first class meeting. (A)

1802. Mathematics for Social and Life Sciences II (4)

Sequences and limits, derivatives, maxima and minima, integrals and applications, elementary differential equations. Prerequisite: Math. 1801. (A)

1803. Mathematics for Social and Life Sciences III (4)

Linear algebra, intuitive calculus of several variables, series, Lagrangian probabilistic models as applied to the social and life sciences. Prerequisite: Math. 1802. (A)

1920-1999. Directed Group Study (1-5)**2101. Elements of Linear Algebra (4)**

Vector spaces, linear transformations, matrices, systems of linear equations. Stress on 2 and 3 dimensions, including geometric and other applications. Prerequisite: Math. 1305 or 1803 (may be taken simultaneously with, or after, Math. 2304). (A)

2303. Analytic Geometry and Calculus V (4)

Double integrals, line integrals, sequences and series, Fourier series. Prerequisite: Math. 2302. (Offered for the last time in Fall, 1974.)

2304. Calculus III (4)

Infinite series, convergence of power series. Vectors in space. Partial derivatives, chain rule, directional derivative and gradient. Curves and surfaces. Maxima and minima. Multiple integrals. Prerequisite: Math. 1305. (A)

3100. Linear Algebra (4)

Vector spaces. Linear transformations. Matrices and determinants. Dual spaces. Prerequisite: Math. 3121. (A)

3101. Foundations of Mathematics (4)

The nature of mathematics; mathematical logic; axiomatic bases for numbers and number systems; bases of geometries. Prerequisite: calculus. (Y-tent.)

3115. Theory and Applications of Boolean Algebras (4)

Axiomatic treatment of Boolean algebra. The algebra of sets and the algebra of propositions treated as Boolean algebras. Applications to logic, switching circuits, control problems and related topics. Prerequisite: Math. 2304. (Y)

3121. Elements of Modern Algebra (4)

Equivalence relations, partitions and binary operations. Introduction to groups, rings, and fields. The integers, the integers modulo n , the rationals, polynomial rings and matrices. Prerequisites: one year of calculus and some linear algebra. (A)

3130. Set Theory (4)

Sets, relations, functions. Quotient sets and product sets. The choice axiom and its equivalent forms. Ordinal and cardinal arithmetic. Prerequisite: two years of college mathematics. (Y)

3215. Foundations of Geometry (4)

Incidence, order, separation, metric vs. synthetic approach, congruence, similarity, absolute geometry, Euclidean and non-Euclidean geometries, classical constructions. Prerequisite: Math. 1305. (A)

3300. Intermediate Analysis (4)

A rigorous treatment of the real numbers, topology of the line, continuity, sequences and infinite series. Prerequisite: Calculus (Math. 2304). (A)

3331. Differential Equations I (4)

Solution of first order and linear n th order differential equations. Solution by LaPlace Transform and/or selected applications. Prerequisite: Math. 2304. (A)

3332. Differential Equations II (4)

Series solution of linear differential equations with variable coefficient, two-point boundary value problems. Systems of differential equations and phase plane analysis. Introduction to numerical methods. Prerequisite: Math. 3331. (Y)

3401. Introduction to Probability Theory (4)

(See Stat. 3401 for course description.)

3502, 3503. Statistical Inference I, II (4 each)

(See Stat. 3502, 3503 for course descriptions.)

3600. Number Theory (4)

Euclid's algorithm, prime numbers, congruences, theorems of Fermat and Euler, quadratic residues. Prerequisite: Math. 3121. (W)

3701. Introduction to Algorithmic Processes (4)

Programming of digital computers in problem-oriented language. Emphasis on algorithms, scientific applications. Thorough study of a compiler language. Use of CSUH computing facilities. Prerequisite: Math 1305, or 1803. (A)

3702. Computer Organization and Programming (4)

Programming a digital computer in machine-oriented language. Basic machine language, assembly language. Macros, indexing, subroutines, number and character representations. Use of College computing facilities. Prerequisite: Math. 3701, or both Math. 1710 and 1305. (F, W, Sp)

3750. Basic Numerical Analysis (4)

Computation with approximate numbers; accuracy, checking and error considerations; choice and use of tables; applications involving polynomial approximations; interpolation, finite differences, numerical differentiation and integration; numerical solution of algebraic, transcendental equations and systems of equations. Prerequisite: Math. 3331 or consent of instructor. (F)

3800. Selected Topics from Applied Mathematics (4)

Aspects of the transform calculus, infinite series (orthogonal) and special functions with applications to engineering and physical problems. Prerequisite: Math. 3331. (Y)

3841. Linear Programming (4)

Applications and problem formulation; solution procedures (simplex method and variants); duality theory; sensitivity analysis. Prerequisite: Math 2303 or 2304 and competence in matrix algebra. (W)

3860. Techniques of Linear Optimization (4)

Assignment and transportation problems; mutual primal-dual algorithm, decomposition techniques; integer programming; stochastic programming. Prerequisite: Math. 3841. (Y)

3870. Techniques of Non-Linear Optimization (4)

Unconstrained optimization; LaGrange multiplier theory and Kuhn-Tucker theory; solution procedures (gradient methods, penalty functions, cutting planes, etc.); geometric programming; dynamic programming. Prerequisite: Math. 3841. Recommended: Advanced calculus. (Y)

4021.* Number Systems (5)

Sets; relations and operations on sets; numeration systems; number systems from the natural through the real numbers; relations, operations, and algorithms for these sets of numbers. (A)

4022.* Geometry (4)

Informal non-metric geometry, metric geometry, measurement, logic and the nature of a mathematical system, simple proofs. Prerequisite: Math. 4021. (Y)

4023.* Functions (4)

Elementary functions on the real number system; graphs; introduction to probability and statistics; flow charting; introduction to the electronic digital computer. Prerequisites: Math. 4021 and 4022. (Y)

4040. History of Mathematics (4)

The historical development of mathematical ideas and techniques. Prerequisite: calculus or consent of instructor. (F, Sp)

4100. Mathematical Logic (4)

The propositional calculus and its completeness. Boolean algebras. Functional calculi of various orders. Theorems of Godel and Henkin. Prerequisite: senior standing in mathematics or consent of instructor. (Tent. Y)

4121. Introduction to Modern Algebra I (4)

Groups, rings, and fields. Principal ideal rings, polynomial rings. Prerequisite: Math. 3100 and Math. 3121. (F, Sp)

4122. Introduction to Modern Algebra II (4)

Modules. Structure theorem for finitely generated modules. Galois theory. Prerequisite: Math. 4121. (W)

4200. Elementary Metric Differential Geometry (4)

Topics in classical differential geometry of curves and surfaces. Prerequisite: Math. 2304 or equivalent. (Y)

* Mathematics majors will not receive credit for this course.

4215, 4216. Modern Geometry I, II (4 each)

Synthetic and analytic projective geometry, projective theory of conics, transformations, finite geometries, inversion geometry, Klein's Erlanger program. Prerequisites: 4215: Math. 3215 and 2101; 4216: Math. 4215 and 3100. (Y)

4320. Vector Analysis (4)

Vector algebra, differentiation, and integration; gradient, divergence, curl; curvilinear coordinates. Prerequisite: Math. 3331. (Y)

4331, 4332. Advanced Calculus I, II (4 each)

Limits and convergence, improper integrals, functions of several variables, partial derivatives, Jacobians and the linear approximation theorem, multiple integrals and Fubini's theorem, line and surface integrals, Stokes' theorem, special functions. Prerequisite: 4331: Math. 3300; 4332: Math. 4331. (4331: F, Sp; 4332: W)

4340. Introduction to Complex Variables (4)

Introduction to theory of functions of complex variables. Prerequisite: Math. 3331. (Y)

4350. Theory of Functions of a Real Variable (4)

A rigorous treatment of the real number system, convergence and uniform convergence, Riemann integration. Prerequisites: Math 3100, 4331. (Y)

4360. Introduction to Topology (4)

Beginning course in topological methods in analysis, standard theorems in topology, bicontinuous transformations, topological spaces, metric spaces. Prerequisite: Math. 3300. (Y)

4361. Partial Differential Equations (4)

The wave equation, heat equation, Laplace's equation; boundary value problems. Elementary Sturm-Liouville theory, Fourier Series; Laplace and Fourier transforms and other topics. Prerequisite: Math. 3331. (Y)

4410. Introduction to Stochastic Processes (4)

(See Stat. 4410 for course description.)

4501, 4502. Introduction to Mathematical Statistics I, II (4 each)

(See Stat. 4501, 4502 for course descriptions.)

4700. Advanced Computer Programming (4)

Topics in advanced computer programming such as subroutine linkage, formal language theory, development of compilers and interpreters. Use of University computing facilities. Prerequisite: Math. 3702 (Y)

4730. Numerical Methods in Ordinary Differential Equations (4)

Selected numerical methods of solution of one-point and two-point boundary value problems involving linear and nonlinear ordinary differential equations and systems. Prerequisite: Math. 3332, 3701, and 3750 or consent of instructor. (Y)

4750. Numerical Methods of Approximation (4)

Polynomial and rational methods of approximation of functions of one or more variables in senses such as least squares and least maximum deviation. Prerequisite: Math. 3701 and 3750 or consent of instructor. (Y)

4760. Numerical Matrix Inversion and Decomposition (4)

Numerical methods for inverting and decomposing matrices and solving systems of linear algebraic equations and inequalities. Methods for obtaining eigenvalues and eigenvectors of matrices. Prerequisite: Math. 3100 and 3701 or consent of instructor. (Y)

4900. Independent Study (1-5)**4920-4999. Directed Group Study (1-5)****MATHEMATICS—EDUCATION COURSES****4020. Teaching Mathematics in Elementary Schools (3)**

The curriculum, teaching methods and content in elementary school mathematics. Prerequisite: Math. 4021. (A)

5040. Teaching Mathematics in Secondary Schools (3)

Curriculum and instruction in mathematics for grades 7 through 14. Open only to post-baccalaureate or graduate students. (Y)

5900. Independent Study (1-3)**5920-5999. Directed Group Study (1-3)****GRADUATE COURSES**

(For complete course descriptions for the following courses, see the Graduate Catalog.)

Math. 6120. Algebraic Structures (4)**Math. 6201. Point Set Topology (4)****Math. 6202. Algebraic Topology (4)****Math. 6331. Ordinary Differential Equations (4)****Math. 6340. Introduction to Advanced Complex Analysis (4)****Math. 6350. Introduction to Advanced Real Analysis (4)****Math. 6370. General Theory of Measure and Integration (4)****Math. 6401-2. Advanced Probability I, II (4 each)****Math. 6410. Queueing Theory (4)****Math. 6430. Stochastic Processes (4)****Math. 6501-2. Mathematical Statistics I, II (4 each)****Math. 6510. Analysis of Variance (4)****Math. 6900. Independent Study (1-4)****Math. 6902-6909. Seminar (2-3)****Math. 6910. Thesis (1-6)****Math. 6911-6919. Selected Topics in Graduate Mathematics (2-4 each)****Math. 6920-6999. Directed Group Study (1-4)****Meteorology**

See Earth Sciences, page 280.

Mexican-American Studies

Offered in the Mexican-American Studies Program

1020. The Mexican-American Student in Contemporary Society (4)

A study of the problems faced by the Mexican-American Student in contemporary American educational institutions with a focus on higher education. Prerequisite: Departmental consent. (F)

1407. Elementary Spanish for Chicanos (4)

(See *FLan.* 1407 for course description.)

1510. The Rhetoric of the Chicano Revolution (4)

The development and acquisition of communication techniques through critical examination and evaluation of the speeches and writings of prominent exponents of the Chicano Revolution. (Y)

1920-1999. Directed Group Study (1-4)

2001. The Chicano in Contemporary Society—I (4)

A study of the Mexican-American people in the United States with emphasis on historical origins, cultural values and expression, social organization, and social and political conflict with Anglo-American society. (F)

2002. The Chicano in Contemporary Society—II (4)

A study of Mexican-American people in rural life in the United States. Social conditions, types of employment, working conditions, labor unions. Law and the Chicano. Limited field work on a special topic under supervision of the instructor. Prerequisite: MAS 2001. (W)

2003. The Chicano in Contemporary Society—III (4)

A study of the conditions of urban life of Mexican-Americans. Life in the *barrio*, educational problems, employment, cultural invention, accommodation, and political organization. Limited field work on a special topic under supervision of the instructor. Prerequisite: MAS 2001. (Sp)

2408. Intermediate Spanish for Chicanos, I (4)

(See *FLan.* 2408 for course description.)

2409. Intermediate Spanish for Chicanos, II (4)

(See *FLan.* 2409 for course description.)

2801. Intellectual Antecedents of Chicano Thought (4)

(See *Phil.* 2801 for course description.)

3491. Novel of the Mexican Revolution (4)

(See *FLan.* 3491 for course description.)

3518. Ethnography of Mexican-American Peoples (4)

(See *Anth.* 3518 for course description.)

4000. Senior Seminar in Mexican-American Studies (4)

Intensive study of special topics related to Chicanos as a minority group in the United States. Prerequisites: MAS 2001, -2, -3, and upper-division standing. (Sp)

4130. Barrio Projects (1-4)

Supervised Barrio field work in a community, school or organization serving Chicanos. Three weekly hours field work per unit of credit. Repeatable maximum 12 units credit. Prerequisite: Consent of instructor. (F, W, Sp)

4400. The Chicano and the Schools (4)

(See *TEd.* 4400 for course description.)

4900. Independent Study (1-4)

4920-4999. Directed Group Study (1-4)

Microbiology

See Biological Science, page 256

Music

Offered in the Department of Music

MUSIC THEORY

1008. Music Theory for Non-Music Majors (4)

Singing, conducting, music reading, functional keyboard, playing simple melody and rhythm instruments, and experience with literature through recordings. Recommended for non-music majors or minors who follow the Elementary Credential program. (A)

1009. Music Theory for Non-Music Majors (4)

Continuation of Music 1008 with emphasis on developing individual skills through musical creativity. Recommended for non-music majors or minors who follow the Elementary Credential Program. Prerequisites: Music 1008 or consent of the instructor. (W, Sp)

1025. Sightsinging (1)

Activity in sightreading with emphasis on formula and devices for improvement of individual proficiency in sight singing. May be repeated for credit. (Y)

1031, 1032, 1033. Music Theory I, II, III (4 each)

I. Fundamentals of pitch, rhythm, and tonality; intervals and melodic structure. Prerequisite: Music major or consent of instructor. (F)

II. Two and three part counterpoint; chord structure and texture leading to the study of harmony; non-harmonic tones. Prerequisite: Theory I, or consent of instructor. (W)

III. Diatonic harmony and inversions; secondary dominants; binary and ternary form; modulation. Prerequisite: Theory II, or consent of instructor. (Sp)

2031, 2032, 2033, Music Theory IV, V, VI (4 each)

IV. Emphasis on tonality, neapolitan and augmented 6th chords, extended two part counterpoint; rondo form. Prerequisite: Theory III or equivalent, or consent of instructor. (F)

V. Emphasis on forms; variations, fugue, and sonata-allegro; 9th, 11th and 13th chords. Prerequisite: Theory IV, or consent of instructor. (W)

VI. Expanded tonality; Impressionistic and 20th Century considerations. Prerequisite: Theory V, or consent of instructor. (Sp)

3031, 3032, 3033. Stylistic Composition and Analysis I, II, III (4 each)

The organization of musical ideas into logical and homogenous form. Study of ranges, technical limitations and transpositions of orchestral and band instruments.

- I. Bartok, Hindemith, and others. Prerequisite: Theory VI or consent of instructor. (F)
- II. Stravinsky. Prerequisite: Mus. 3031 or consent of instructor. (W)
- III. Schoenberg and Webern. Prerequisite: Mus. 3032 or consent of instructor. (Sp)

3041, 3042, 3043. Original Composition and Analysis I, II, III (4 each)

Original composition including a study of ranges, technical limitations and transpositions of orchestral and band instruments.

- I. Emphasis on two and three part writing; application of techniques in small forms. Prerequisite: Theory VI and/or consent of instructor. (F)
- II. Applications of techniques in small and large forms. Prerequisites: Mus. 3041 and/or consent of instructor. (W)
- III. Application of techniques in large forms. Prerequisite: Mus. 3042 and/or consent of instructor. (Sp)

3051. Jazz Composition and Analysis (4)

Technical features of various jazz styles; arranging for various combinations. Prerequisite: consent of instructor. (Y)

3052. Instrumental Scoring (4)

Ranges, tonal possibilities, and technical limitations; transpositions of orchestral and band instruments; scoring for orchestra, band and instrumental chamber groups. Prerequisite: consent of instructor. (Y)

4045, 4046. Composition and Analysis IV, V (4 each)

- IV. Composition of original songs and choral pieces. Prerequisite: Mus. 3033 or 3043 and/or consent of instructor. (F)
- V. Composition of original works for instrumental media. Prerequisite: Mus. 3033 or 3043 and/or consent of instructor. (W)

4055, 4056, 4057. Stylistic Counterpoint I, II, III (4 each)

- I. Sixteenth Century counterpoint. Styles and forms of sacred and secular music of such composers as Palestrina, Lassus, Byrd, et al. Prerequisite: Mus. 3033 or 3043. (Y)
- II. Counterpoint of the early and middle Baroque. Styles and forms of such composers as Monteverdi, Buxtehude, et al. Prerequisite: Mus. 3033 or 3043. (Y)
- III. A study of the counterpoint forms of canon and fugue. Prerequisite: Mus. 3033 or 3043. (Y)

4061. Seminar in New Music (4)

Research and interpretation of current compositional methods, forms, notations, processes, and production techniques. Specific topic will be announced prior to the quarter offered. May be repeated twice for credit. Prerequisites: consent of instructor and Mus. 3033 or 3043. (Y)

GRADUATE COURSES

(For complete course descriptions for the following courses, see the Graduate Catalog.)

Mus. 6015, 6016. Analysis of Musical Styles I, II (3 each)**Mus. 6060. Improvisation (3)****MUSIC HISTORY AND LITERATURE****1801. Music for the General Student, I (5)**

The study of selected compositions from Medieval times through the early 18th century, including the music of Monteverdi, Vivaldi, Handel and J. S. Bach, etc. Course designed for students whose major field is not music. Four hrs. lect., 2 hrs. arranged as concert attendance. (F)

1802. Music for the General Student, II (5)

The study of selected compositions from the late 18th and early 19th century music of Haydn, Mozart, Beethoven, etc. Course designed for students whose major field is not music. Four hrs. lect., 2 hrs. arranged as concert attendance. (W)

1803. Music for the General Student, III (5)

The study of selected compositions from the 19th and early 20th century, music of Berlioz, Brahms, Debussy, Stravinsky, etc., including early jazz. Course designed for students whose major field is not music. Four hrs. lect., 2 hrs. arranged as concert attendance. (Sp)

1901. Music of Our Time (4)

A study of the forms and styles of 20th century music; concert hall, stage, folk and popular. Previous formal music training not necessary. (A)

1910. History of Jazz (4)

Periods, major performers and composers, trends, influences, stylistic features and cultural significance. (A)

2110. Survey of Music Literature (3)

A basic course in music understanding designed for the person without formal music training. Emphasis on music as a communicative art, stressing music media, periods, and styles. (A)

3115. Music of the Black American (4)

Organization and development of the types, forms, and styles of music as they relate to the history of the Black American. (Y)

3155, 3156, 3157. Music Literature and Analysis I, II, III (3 each)

Emphasis given to style analysis; the relationship of music to the social and cultural background of each epoch. Prerequisite for each: Mus. 2033 or consent of instructor.

- I. Music from the beginnings of Western Civilization through Medieval and Renaissance times. (F)
- II. Music of the Baroque and Classical periods. (W)
- III. Music of the Romantic and Contemporary periods. (Sp)

4110. Seminar in Music Literature (4)

Research, interpretation, performance problems in selected literature for various media. Specific topic will be announced prior to the quarter seminar is offered. May be repeated twice for credit. Prerequisites: Mus. 3157 and consent of instructor. (Y)

4120. Seminar in Music History (4)

Research and discussion in a selected period of music history. Specific period and topic will be announced prior to the quarter seminar is offered. May be repeated twice for credit. Prerequisites: Mus. 3157 and consent of instructor. (Y)

4130. Seminar in Music Criticism (4)

Seminar in problems, principles and procedures of descriptive and critical analysis and synthesis; relationship of language to description and criticism; experience in precise, expressive use of language. Prerequisites: Mus. 3157 and consent of instructor. (Y)

GRADUATE COURSES

(For complete course descriptions for the following courses, see *Graduate Catalog*.)

Mus. 6000. Seminar in Bibliography and Research Methods (3)

Mus. 6120. Seminar in Choral Literature (3)

Mus. 6130. History of Keyboard Music (4)

Mus. 6140. History of the Symphony (4)

Mus. 6150. Vocal Literature I (Art Song) (3)

Mus. 6155. Vocal Literature II (Opera, Oratorio, Cantata) (3)

Mus. 6160. Music of the Orient (3)

Mus. 6170. History of Chamber Music (4)

Mus. 6180. Contemporary Music (3)

Mus. 6190. History of Opera through Mozart (3)

Mus. 6195. Operas of Wagner (3)

APPLIED MUSIC

1311, 1312, 1313. Elementary Class Piano (1 each)

A graded sequence of materials designed to develop keyboard facility through a study of technique, repertoire, sight-reading, and harmonization. Recommended for classroom teachers. Designed for students with little or no background. (A)

1314, 1315, 1316. Basic Piano Class (1 each)

Group instruction in piano for music majors not majoring in piano. Prerequisites: Mus. 1314 is prerequisite to Mus. 1315; Mus. 1315 is prerequisite to 1316. (1314—F, 1315—W, 1316—Sp)

2311, 2312, 2313. Intermediate Class Piano (1 each)

Continuation of Mus. 1316. Required of music majors (except keyboard students) for fulfilling basic piano requirement. Prerequisites: Mus. 1316 and Mus. 1033 or equivalents. Mus. 2311: Major mode formulae. Mus. 2312: Minor mode formulae. Mus. 2313: open score reading.

2314. Keyboard Sight-Reading (1)

Sight reading technique as applied to keyboard literature. Prerequisite: Music major. Keyboard concentration. (F)

2315. Keyboard Harmony (1)

Harmonic formulae in all keys, sequences, transpositions and simple figured bass; sight harmonization of melodies and bass lines. Designed for keyboard majors at sophomore level or above. (W)

2316. Open Score Reading (1)

Principles of reading and transcribing open scores at the keyboard. Examples chosen from choral, orchestral and ensemble literature. Designed for keyboard majors at sophomore level or above. (Sp)

3210-3270. Applied Music (1 each)

Individual advanced instruction for music majors. May be repeated for credit. (A)

3210. Piano	3243. Bassoon
3211. Organ	3244. Saxophone
3212. Harpsichord	3250. Trumpet
3220. Voice	3251. French Horn
3230. Violin	3252. Trombone
3231. Viola	3253. Baritone
3232. Cello	3254. Tuba
3233. String Bass	3260. Percussion
3234. Harp	3270. Composition—Prerequisites: (1) reasonable proficiency in at least one other area of applied music; (2) knowledge of music theory equivalent to first year theory; and (3) consent of instructor.
3235. Guitar	
3240. Flute	
3241. Oboe	
3242. Clarinet	

MUSIC PERFORMANCE ACTIVITIES

2220. Lyric Diction for Singers—Italian (1)

Adapting language to singing; drill on phonetics; application of techniques; performance of vocal literature. Prerequisites: Voice concentration. (Y)

2221. Lyric Diction for Singers—German (1)

Adapting language to singing; drill on phonetics; application of techniques; performance of vocal literature. Prerequisites: Voice concentration. (Y)

2222. Lyric Diction for Singers—French (1)

Adapting language to singing; drill on phonetics; application of techniques; performance of vocal literature. Prerequisites: Voice concentration. (Y)

5500-5550. Music Performance Activities (1 each)

Music activities are open to all qualified students and may be used to satisfy the general education requirement in the performing arts. They may be repeated for credit. Music majors are required to enroll in one major performance group each quarter. Music majors are also required to participate in one chamber ensemble each quarter.

01. University Chorus (A)*	09. Piano Accompaniment (A)*
02. University Orchestra (A)*	10. Jazz Workshop (F,W,Sp)
03. Concert Band (A)*	11. Symphonic Band (F,W,Sp)*
04. University Singers (F,W,Sp)*	12. Repertory Chorus (F,W,Sp)
05. Opera Workshop (F,W,Sp)*	13. Afro-American Ensemble (F,W,Sp)
06. Chamber Ensemble (A)**	14. String Orchestra

MUSIC EDUCATION

1010. Basic Musicianship Through Guitar for Non-Music Majors (3)

Development of music reading and understanding through study of the guitar. Recommended for non-music majors/minors pursuing a Credential Program. Students provide own guitar. Fulfils Performing Arts and Activities Requirement. (A)

2321, 2322, 2323. Basic Voice (1 each)

Class instruction in fundamentals of singing. Required of music credential majors. Open also to other qualified students. May be repeated for credit. Mus. 2321 prerequisite for 2322. Mus. 2322 prerequisite for Mus. 2323.

* Satisfies the major performance requirement for music majors.

** The Chamber Ensemble schedule will be available in the Music Office during the pre-registration period for each quarter.

2331-33, 2341-43, 2351-2, 2361. Basic Orchestral Instruments (1 each)

Instruction in the fundamentals of playing orchestral instruments; methods and materials for use in elementary and secondary schools. Two hours activity.

- 2331. Violin and Viola (F, W)
- 2332. Cello and Bass (F, W)
- 2333. Advanced Basic Strings Prerequisite: 2331 and 2322 (Sp)
- 2341. Clarinet (F, W, Sp)
- 2342. Double Reeds Prerequisite: 2341 (F, W, Sp)
- 2343. Flute and Saxophone Prerequisite: 2341 (F, W, Sp)
- 2351. Trumpet and French Horn (F, W, Sp)
- 2352. Trombone and Tuba Prerequisite: 2351 (F, W, Sp)
- 2361. Percussion (F, W, Sp)

3370. Basic Conducting (3)

Basic techniques of conducting including simple, compound and asymmetrical meters, expression and interpretation through observation and laboratory experience. Prerequisite: Upper division standing or consent of instructor. (Y)

3380. Choral Conducting (3)

Special techniques of choral conducting including vocal and score reading and analysis, interpretation, and rehearsal through observation and laboratory experience. Prerequisites: Upper division standing or consent of instructor; Mus. 3370 or equivalent must precede Mus. 3380. (Y)

3390. Instrumental Conducting (3)

Special techniques of instrumental conducting including score reading and analysis, interpretation, rehearsal through observation and laboratory experience. Prerequisites: Upper division standing or consent of instructor; Mus. 3370 or equivalent must precede Mus. 3390. (Y)

4410. Folk Music in the Elementary Classroom (4)

A critical study of folk and art music of various cultures for the general vocal and instrumental classroom activities of the integrated curriculum. Recommended for non-music majors or minors who follow Elementary and Early Childhood Credential programs. Prerequisites: Mus. 1008 or consent of instructor. (A)

4425. Music Literature for Children (3)

Analysis of music literature for children with individual projects, emphasis on use of song materials, recordings and multimedia approaches for the elementary classroom. Prerequisites: Mus. 1008 or equivalent or consent of instructor. (Y)

5430. Music in the Elementary School (3)

Music aims, methods, materials and their organization for elementary classroom teachers. Application to adopted state music texts. Recommended for all General Elementary Credential classroom teachers. Two hrs lect., 2 hrs. act. (A)

5440. Choral Music in the Schools (3)

Aims, methods and organization of materials and vocal music programs in the elementary through secondary schools. For the choral emphasis music major credential candidate. (Y)

5450. Instrumental Music in the Schools (3)

Aims, methods, and organization of materials and instrumental music programs in the elementary through secondary schools. For the instrumental emphasis music major credential candidate. (Y)

5460. General Music in the Schools (3)

Exploring methods and planning activities and projects for the general music curriculum in the junior and senior high schools. (Y)

GRADUATE COURSES

(For complete course descriptions for the following courses, see Graduate Catalog.)

- Mus. 6000. Seminar in Bibliography and Research Methods (3)
- Mus. 6380, 6390. Advanced Conducting (Choral I, Instrumental II) (3 each)
- Mus. 6410. Curriculum Seminar in Music Education (3)
- Mus. 6415. Seminar in Developing Music Concepts Through the Rehearsal (3)
- Mus. 6416. Seminar in Music and the Humanities in the Secondary School (3)
- Mus. 6430. Voice Pedagogy (3)
- Mus. 6440. Theory Pedagogy (3)
- Mus. 6460. Seminar in Foundations of Music Education (3)
- Mus. 6480. Seminar in Comparative Music Education (3)

MISCELLANEOUS COURSES

- 1920-1999. Directed Group Study (1-4)
- 4900. Independent Study (1-4)
- 4920-4999. Directed Group Study (1-4)
- 5900. Independent Study (1-4)
- 5920-5999. Directed Group Study (1-4)
- 6900. Independent Study (1-4)
- 6910. Thesis (1-6)
- 6920-6999. Directed Group Study (1-4)

Native American Studies

(Offered in the School of Arts, Letters and Social Sciences)

2100. The Native American Experience (4)

Survey of the Native American experience in North America. Topics covered: History, education, religion, socioeconomic conditions, and psychology. Results of cultural contact. (F,W,Sp)

2200. Contemporary Native American Life (4)

Social and economic conditions of contemporary American Indian life. Stereotypes, discrimination, poverty, and their effects on individuals. Contemporary social movements. (Y)

2300. Native American World View (4)

A comparative study of American Indian belief systems, world views, and religions, analyzing their roles and importance in Indian life. Prerequisites: NAS 2100 or consent of instructor. (Y)

2500. Native American Oral Tradition (4)

American Indian poetry, narrative, oratory, myths; their relationship to Indian life past and present. The epic origin tales, ritual drama, and current Indian authors. Prerequisite: NAS 2100 or consent of instructor. (Y)

3200. Native American Liberation Movements (4)

Study of Native American movements aimed at liberation from the effects of European conquest. Social and political problems of political domination. Prerequisite: NAS 2100 or consent of instructor. (Y)

3210. History of Native American Education (4)

American Indian education since 1568. Indian education today. Institutional and social problems of Indians in American schools. Laws dealing with Indian education. Colonial schools. Prerequisite: NAS 2100 or consent of instructor. (F,Sp)

3400. Native American Law and Federal Policy (4)

Theory of American Indian law. Legal bases of tribal existence. The legal rights of Native Americans. Case studies of important topics. Prerequisite: NAS 2100 or consent of instructor. (Y)

4200. Native Americans in Urban Societies (4)

Problems of adjustment of the Native American to urban life. Dynamics of migration to the cities. Comparative social structures of urban and rural Indians. Prerequisites: NAS 2100 and one other NAS course.

4400. Tribal Governments (4)

The operation of tribal governments. The Bureau of Indian Affairs, Department of Interior, and other Federal agencies. Native and European concepts of "tribe." Prerequisite: NAS 2100 and one other NAS course. (Y)

4900. Independent Study (1-4)**Nature Study**

See Biological Science, page 256

Nursing

Offered in the Department of Nursing

1100. Introduction to Professional Nursing (3)

Survey of historical development of nursing and the ethics of a practicing profession. (F)

2100. Nutrition (3)

Composition of food. Nutritive needs and food selection for varying ages, economic and social conditions. Prerequisites: Chem. 1603, Biol. 2062. (Y)

2110. Pharmacology (3)

Introduction to drugs and therapeutics. Prerequisites: Chem. 1603, Biol. 2062, 4010. (Y)

2205. Introduction to Clinical Nursing (5)

Introduction to the theory and principles that underlie the practice of professional nursing. Prerequisite: Biol. 2062, Chem. 1602, or consent of instructor. Two hrs. lect., 9 hrs. clinical practice lab. off campus. (F)

2206. Medical and Surgical Nursing I (5)

Theory and principles of medical and surgical nursing. Prerequisites: Nurs. 2100, 2110, 2205 or consent of instructor. Two hrs. lect., 9 hrs. clinical practice lab. off campus. (W)

2207. Maternal and Child Health Nursing I (5)

Theory and principles of maternal and child health nursing. Prerequisites: Psyc. 2000. Nurs. 2205, or consent of instructor. Two hrs. lect., 9 hrs. clinical practice lab. off campus. (Sp)

3205. Psychiatric and Mental Nursing (5)

Theory and principles of psychiatric nursing; promotion of mental health. Prerequisite: consent of instructor. Two hrs. lect., 9 hrs. clinical practice lab. off campus. (F)

3206. Medical and Surgical Nursing II (5)

Theory and principles for care of multiple medical and surgical problems. Prerequisite: consent of instructor. Two hrs. lect., 9 hrs. clinical practice lab. off campus. (W)

3207. Maternal and Child Health Nursing II (5)

Complicated pregnancy and long-term illness in children and adolescents. Prerequisite: consent of instructor. Two hrs. lect., 9 hrs., clinical practice lab. off campus. (Sp)

4204. Community Health Nursing (6)

Theory and principles of community health nursing. Prerequisite: Senior standing in nursing. Two hrs. lect., 12 hrs. clinical practice lab. off campus. (W)

4205. Trends and Leadership in Nursing (3)

Preparation for assuming responsibility in professional nursing. Prerequisite: Senior standing in nursing. (F)

4301. Distributive Seminar (2)

Nursing theory emphasizing the prevention of disease and maintenance of health. Concurrent registration required in Nurs. 4302. Prerequisite: Nurs. 4204.

4302. Distributive Preceptorship (3-10)

Nursing practice which emphasizes the prevention of disease and maintenance of health. May be repeated for credit up to 10 units. Prerequisite: Nurs. 4301 or concurrent, Nurs. 4204. Three hrs. supervised practice per unit.

4303. Episodic Seminar (2)

Nursing theory which emphasizes the curative and restorative aspects of nursing. Concurrent registration required in Nurs. 4304. Prerequisite: Nurs. 4204.

4304. Episodic Preceptorship (3-10)

Nursing practice which emphasizes the curative and restorative aspects of nursing. May be repeated for credit up to 10 units. Prerequisites: Nurs. 4303 or concurrent, Nurs. 4204. Three hrs. supervised practice per unit.

4900. Independent Study (1-4)

Oceanography

See Earth Sciences, pages 277, 327

Philosophy

Offered in the Department of Philosophy

1001. Introduction to Logic (4)

A beginning study of the forms of valid inference, stressing recent developments in symbolic logic, and including Aristotelian deductive logic. Does not satisfy the general education requirement in humanities. (A)

1002. Inductive Logic and Scientific Methods (4)

An elementary study of how material truth is related to formal validity. The problems of induction and probable inference. (Y)

1011. Workshop in Clear Thinking (4)

Development of clarity and focus in straight-line thinking, with attention to rigor, modes of explanation, elimination of superfluous ideas, etc. Papers and discussion in class. (Y)

1920-1999. Directed Group Study (1-4)

2000. Introduction to Philosophy (4)

Representative interpretations of man's place in the universe, studied through selections from the writings of the great philosophers. (A)

2100. Ethics (4)

Major types of ethical theory and their relation to social systems and institutions. (A)

2110. Racial Conflict and Ethical Values (4)

A study of the causes of racial conflict. Relations between racial and international conflict are examined. Cross-listed with BI.St. 2110. (F)

2210. Philosophy of Art (4)

An introduction to problems in aesthetics, particularly as these are reflected in writings from the various fields of art. (Y)

2220. Philosophy and Literature (4)

An introductory survey of basic themes in philosophy as they are presented in literature. (Not open to students who have taken Phil. 2300.) (Y)

2301. Introduction to Existential Philosophy I (4)

Existentialism in its historical origins and as it has developed in Northern Europe. Treatment of such thinkers as Kierkegaard, Nietzsche, Jaspers and Heidegger. (Not open to students who have taken Phil. 2200.) (F)

2302. Introduction to Existential Philosophy II (4)

Existential philosophy as a contemporary philosophical movement, centered especially in Southern Europe. Treatment of such thinkers as Sartre, Camus, Merleau-Ponty, Marcel, Unamuno and Ortega Y Gasset. (Not open to students who have taken Phil. 2201.) (W)

2400. Introduction to the Philosophy of Religion (4)

Introductory survey of issues in the philosophy of religion. The relation between religious faith and rationality, the nature of religious language, contemporary philosophical critiques of religion. (Y)

2411. Religions of the East (4)

An examination of the main ideas in the religions of India, China, and Japan. (Y)

2412. Religions of the West (4)

An examination of the main ideas in Christianity, Judaism, and Islam. (Y)

2500. Issues in Political Philosophy (4)

An introduction to basic issues in political philosophy; an examination of the classical texts. (Y)

2601. History of Ancient and Medieval Philosophy (4)

An introductory survey of western philosophy from the pre-Socratic period to the end of the Middle Ages. (F, Sp)

2602. History of Modern Philosophy (4)

An introductory survey of western philosophy from Descartes to the beginnings of the 19th century. (W, Su)

2801. Intellectual Antecedents of Chicano Thought (4)

An examination of some leading Chicano and Latin American thinkers as they illuminate contemporary intellectual problems in the Chicano community. (Y)

3000. Modern Logic I (4)

A second level course in logic stressing symbolic techniques and including a study of the logic of truth functions and propositional functions. Prerequisite: Phil. 1001 or consent of instructor. (Y)

3001. Modern Logic II (4)

A continuation of Phil. 3000, devoted to the meta-theory of first order predicate logic, Gödel's Incompleteness Theorem, and Tarski's theorem on the indefinability of truth. Prerequisite: Phil. 3000 or equivalent or consent of instructor. (Y)

3011. Philosophy of Science (4)

Methods and concepts of science and their philosophical significance. Cross-listed with Hist. 3011. (Y)

3012. History of Science (4)

The relation between logic and science in antiquity; the development of the modern scientific attitude during the Renaissance; the development of biological science; the shift from classical physics to contemporary physics. Cross-listed with Hist. 3012.

3013. Philosophy and Logic of the Social Sciences (4)

This course will survey some of the philosophical, logical and methodological problems arising in the social and behavioral sciences. Prerequisite: one course in philosophy numbered 2000 or above or consent of instructor. (Y)

3100. Contemporary Ethical Theory (4)

Advanced problems in ethics including a survey of recent literature in ethical theory. Prerequisite: previous course in philosophy other than logic. (Y)

3201. Aesthetics (4)

An historical study of western theories of beauty, aesthetic experience, art and artists. (Y)

3202. Advanced Aesthetics (4)

Studies in recent analytical aesthetics. Prerequisite: Phil. 3201 or consent of instructor. (Y)

3301. Epistemology (4)

The methods of knowing and their relations to the questions of metaphysics. Prerequisite: one previous course in philosophy numbered 2000 or above, or consent of instructor. (Y)

3302. Philosophy of Language (4)

Study of recent movements in philosophy devoted to the analysis and clarification of language. Prerequisite: one previous course in philosophy other than Phil. 1001 and Phil. 1002, or consent of instructor. (Y)

3401. Problems in the Philosophy of Religion (4)

A critical study of selected topics in the philosophy of religion. Religion and ethics, religious knowledge, the rationality of belief, the problem of evil, miracles. (Y)

3402. Contemporary Religious Thinkers (4)

A study of the religious philosophy of representative contemporary thinkers such as Niebuhr, Buber, Tillich, Maritain, Bultmann, Wieman, and Hartshorne. Prerequisite: one course in philosophy other than a course in logic. (Y)

3502. Contemporary Political Philosophy (4)

An examination of representative political philosophies of the Twentieth Century. Emphasis on both textual study and analysis of issues. (Y)

3503. Philosophy of Law (4)

Introduction to the main schools of jurisprudence and legal philosophy. Cross-listed with Pol. Sci. 3503. (Y)

3504. Philosophy of History (4)

Examination of both substantive and analytic approaches to the philosophy of history. Prerequisite: one previous course in philosophy other than Phil. 1001 and Phil. 1002, or consent of instructor. (Y)

3510. Human Rights and Social Justice (4)

Historical perspective on philosophical foundations of human rights with special reference to the struggles for social and racial justice. (W)

3520. Studies in Contemporary Social Philosophy (4)

An examination of recent philosophical criticism of contemporary society and proposals for change. Prerequisite: Phil. 2110 or Phil. 3510 or equivalent or consent of instructor. (Sp)

3610. Classical Greek Philosophy (4)

Brief examination of the pre-Socratics followed by detailed study of the Sophists, Socrates, Plato, Aristotle. Post-Aristotelian philosophy may be discussed. Prerequisite: one philosophy course numbered 2000 or above or consent of instructor. (Y)

3630. Medieval Philosophy (4)

A study of the seminal thinkers in scholastic philosophy such as Boethius, Augustine, Aquinas, Scotus, Ockham, and Nicholas of Cusa. Prerequisite: one course in philosophy numbered 2000 or above or consent of instructor. (Y)

3660. Seventeenth Century Rationalists (4)

A study of the major works of Descartes, Spinoza, and Leibnitz, the great rationalist philosophers of the 17th century. Prerequisite: one previous course in philosophy numbered 2000 or above. (F)

3670. Eighteenth Century Empiricism (4)

The development of modern empiricism and its influences. A study of the major works of Bacon, Locke, Berkeley and Hume. Prerequisite: one previous course in philosophy numbered 2000 or above or consent of instructor. (W)

3680. Nineteenth Century Hegel and Post-Hegelian Thought (4)

A study of major thinkers in the Hegelian tradition and the reaction to Hegelianism (Fichte, Hegel, Schopenhauer, Marx, Nietzsche, Kierkegaard, etc.). Prerequisite: one course in philosophy numbered 2000 or above or consent of instructor. (Y)

3681. Nineteenth Century Utilitarianism, Empiricism and Rationalism (4)

A study of major 19th Century British and Continental thinkers in utilitarianism, positivism, evolutionism, rationalism, philosophy of science (e.g., Bentham, Mill, Comte, Whewell, Spencer, Darwin). Prerequisite: one course in philosophy numbered 2000 or above or consent of instructor. (Y)

3701, 3702, 3703. History of Eastern Philosophy (4 each)

A survey of the philosophical systems of India and the Far East. Each course may be taken independently, but the full sequence is recommended.

3701. Classical Indian Philosophy

The Upanishads, Bagavadgita, Early Buddhism, Jainism. (F)

3702. The Six Schools of Later Indian Philosophy

Nyaya-Vaisesika, Sankhya, Vedanta: absolutistic and theistic, philosophy of evolution. (W)

3703. Philosophies of China and Japan

Confucius, Lao-Tse, Zen Buddhism and modern movements. (Sp)

3710. Comparative Themes in Eastern and Western Philosophy (4)

Critical and comparative study of themes in Western philosophy, Indian philosophy, and Chinese philosophy. Prerequisite: one previous course in Eastern philosophy. (Y)

3800. The Development of American Philosophy (4)

The history of American philosophy from its origin in 17th century New England through the rise of idealism and pragmatism in the end of the 19th century. (Y)

3901. Metaphysics (4)

A study of selected metaphysical systems and of such problems as substance, causality, space and time, mind and body. Prerequisite: a course in Philosophy numbered 2000 or above, or consent of instructor. (Y)

3902. Philosophy of Mind (4)

Study of recent philosophical investigations regarding the nature and function of mind. Prerequisite: one previous course in philosophy other than Phil. 1001 and Phil. 1002, or consent of the instructor. (Y)

3903. Philosophy of Action (4)

Issues concerning human action as discussed in recent philosophical literature. Intention, motive, reasons and causes, purpose, responsibility. (Y)

3910. Introduction to Phenomenology (4)

An introductory survey of the theoretical foundations of transcendental phenomenology, with consideration of major themes such as perception, time, intersubjectivity, objectivity. Prerequisite: one previous course in philosophy numbered 2000 or above or consent of instructor. (F)

3911. Existential Phenomenology (4)

Detailed study of the phenomenological method as employed by existential philosophers including its application to concrete areas such as language, art, history, society, death. Prerequisite: either Phil. 3910, 2200, 2201, 2300 or equivalent, or consent of instructor. (W)

4000. Logical Concepts (4)

A philosophical examination of concepts peculiar to logic and mathematics, e.g., "logical truth," "proof." Prerequisite: Phil. 1001 and either Phil. 3000 or one mathematics course acceptable to the instructor. (Y)

4013. Philosophy of Psychology (4)

Consideration of representatives of such psychological schools as reductionism and behaviorism together with critical philosophical studies of these views by various modern writers. Prerequisite: two upper division philosophy or psychology courses or consent of instructor. (Y)

4200. Advanced Studies in Existential Philosophy (4)

Intensive study of individual author or text in philosophy of existence. Prerequisite: at least one course in existential philosophy or consent of instructor. (Sp)

4801. Contemporary American Philosophy (4)

Selected writings of major American philosophers of the 20th century. Prerequisite: one previous course in philosophy other than Phil. 1001 and 1002, or consent of instructor. (Y)

4802. Contemporary British Philosophy (4)

Selected writings of major British philosophers of the 20th century. Prerequisite: one previous course in philosophy other than Phil. 1001 and 1002, or consent of instructor. (Y)

4803. Contemporary Continental Philosophy (4)

Selected writings of the major European philosophers of the past century. Prerequisite: one previous course in philosophy other than Phil. 1001 and 1002, or consent of instructor. (Y)

4900. Independent Study (1-4)**4911. Senior Seminar in Philosophy (4)**

Intensive study of an important philosopher, school, or problem of philosophy. Prerequisite: two courses in philosophy numbered 2000 or above, or consent of instructor. (A)

4912. Senior Project (4)

Supervised research and preparation of an essay on a significant philosophical problem. Prerequisite: Phil. 4911. (On demand)

4920-4999. Directed Group Study (1-4)**5000. Philosophy of Education (4)**

Introductory course in philosophy of education. (See TEd. 5000 for course description.)

Photography

See Art, page 250 and Mass Communication, page 330

Physical Education

Offered in the Department of Kinesiology and Physical Education

1000-1018.* Beginning Activities, Group I (1 each)

Two hrs. activity. (A)

00. Badminton	09. Volleyball
01. Basketball	10. Weight Training
02. Bowling	11. Wrestling
03. Folk Dance	12. Field Hockey
04. Modern Dance	13. Judo
05. Rugby	14. African-Haitian Dance
06. Soccer	15. Karate
07. Swimming	18. Self Defense-Women
08. Social Dance	

1020-1026.* Beginning Activities, Group II (1 each)

Two hrs. act. (A)

20. Archery	24. Tennis
21. Golf	25. Water Polo
22. Gymnastics	26. Fencing.
23. Trampoline	

* Each course may be repeated only once.

1100. Health and Physical Activity (3)

Analysis and application of the basic concepts of health with particular emphasis on physical fitness. Two hrs. lect., 2 hrs. act. (F, W, Sp)

1920-1999. Directed Group Study (1-4)**2000-2015.* Intermediate and Advanced Activities, Group I (1 each)**

Two hrs. act. (A)	08. Soccer
00. Badminton	10. Synchronized Swimming
03. Folk Dance	13. Judo
04. Modern Dance	14. Life Saving
05. African-Haitian Dance	15. Water Polo
06. Swimming	

2020-2026.* Intermediate and Advanced Activities, Group II (1 each)

Two hrs. act. (A)	24. Tennis
20. Archery	26. Fencing
21. Golf	
22. Gymnastics	

2030-45. Performance Laboratory (2 each)

Instruction in and practice of the following skills. Four hrs. act. (F, W, Sp)

30. Basketball	38. Field Hockey
31. Badminton-Volleyball	39. Tennis
32. Aquatics	40. Advanced Modern Dance
33. Combatives	41. Advanced Folk Dance
34. Advanced Men's Volleyball	42. Track and Field
35. Golf	43. Football
36. Gymnastics	45. Baseball/Softball
37. Soccer	

2050-2053. Intercollegiate Sports, Group I (1 each)

May be repeated according to season.

50. Football	52. Track and Field Athletics
51. Basketball	53. Baseball

2061-2079. Intercollegiate Sports, Group II (1 each)

May be repeated according to season.

61. Freshman Basketball	71. Gymnastics
62. Basketball (women)	72. Water Polo
63. Field Hockey (women)	73. Wrestling
64. Cross County	74. Softball (women)
65. Golf	75. Swimming
66. Badminton (co-ed)	76. Judo
67. Tennis	77. Swimming (women)
68. Volleyball (women)	78. Gymnastics (women)
69. Soccer	79. Tennis (women)
70. Rugby	

2080. Modern Dance Performance Theatre (1)

Modern dance performance theatre. May be repeated for credit. Prerequisite: extensive modern dance experience. Four hrs. act. minimum. (A)

2081. Ethnic Dance Performance Theatre (1)

Performance of ethnic dance forms in theatre situation. May be repeated for credit. Prerequisite: previous ethnic dance experience. Four hrs. act. minimum. (W, Sp)

* Each course may be repeated only once.

2100. Water Safety Instructor Training (2)

Red Cross certification. Prerequisites: senior swimming and life saving. One hr. lect., 2 hrs. act. (F, W, Sp)

2101. Movement Awareness (2)

An individual and group exploration of movement as a medium of expression and communication. An investigation of how space, time, environment, people affect each individual as manifested in movement behavior. A study of meanings inherent in movement. Four hrs. act. (Sp)

2102. Rhythmic Analysis (2)

Rhythmic analysis of movement and musical forms accompanying dance; moving rhythmic patterns and metric combinations. Prerequisites: P.E. 1004 or equivalent. One hr. lect., 2 hrs. act. (W)

2105. Sailing (2)

Introductory course theory of sailing, techniques of small boat handling. One hr. lect., 2 hrs. act. (A)

2106. Sport Parachuting (2)

Introductory course, theory of sport parachuting, techniques of sky diving. One hr. lect., 2 hrs. act. (A)

2110. Skin and Scuba Diving (2)

Introductory course. Prerequisite: satisfactory completion of swimming test. One hr. lect., 2 hrs. act. (F, W, Sp)

2201-05. Styles and Techniques of Folk-Ethnic Dance (1 each)

The study and practice of established styles and techniques of the folk and ethnic dances of the following countries.

01. U.S. Round and Square Dance	04. Dances of Africa
02. Mexican Dance	05. Dances of Asia
03. Dance of American Indians	

Offered according to interest and availability of instructors. Prerequisite: P.E. 1003. Two hrs. act.

2211-2216. Styles and Techniques of Modern Dance (2 each)

The study and practice of established styles, techniques and underlying theories of the following schools of Modern Dance:

11. Graham	14. Nikolais
12. Humphrey	15. Cunningham
13. Limon	16. Wigman

Offered according to interest and availability of specialist instructors. Prerequisite: first year sequence in Modern Dance. Four hrs. act.

2220. Dance Improvisation (2)

The development of creative dance patterns based on spontaneous movement responses. Experimentation with expressive movements as reaction to other art forms. Prerequisite: Modern Dance (P.E. 1004). Four hrs. act. (F)

UPPER DIVISION MAJOR COURSES**3200. Survey of Ethnic Dance (3)**

Survey of international dances as a function of man, in relation to his philosophy, religion, geography and history, social system and culture. Three hrs. lect. (F)

3201-04. Ethnic Dance Forms (3 each)

Study of theories and philosophies underlying the dance forms of specific countries, as follows:

01. Regional Dances of Mexico

02. Dance Rituals of American Indians
03. Traditional Dances of Africa
04. Art Dances of Asia

Two hrs. lect., 2 hrs. act. Offered according to interest and availability of instructors.

3241. Theory of Modern Dance (3)

Analysis and practice of skills, creative processes, and knowledge involved in modern dance. Technique, composition and production. Prerequisite: activity course in modern educational dance. Two hrs. lect., 2 hrs. act. (W)

3242. Composition of Dance, Solo Forms (3)

Choreography and composition problems in modern dance. Discussion and practice of movement materials, traditional and modern forms. Prerequisite: activity course in modern dance and P.E. 2220. Two hrs. lect., 2 hrs. act. (W)

3243. Composition, Group Forms (3)

Composition and aesthetic problems of space and rhythmic designs for group performance. Prerequisite: P.E. 3242. Two hrs. lect., 2 hrs. act. (Sp)

3244. Dance Production (4)

Production aspects of dance performance. Designing and executing sound, lighting, staging, costume and make-up for dance. Prerequisites: dance experience and consent of instructor. Two hrs. lect., 4 hrs. act. (Sp)

3300. Kinesiological Measurement (5)

Theoretical basis of measurement in kinesiology. Role of statistical analysis in kinesiological research. The limitations of measurement. Prerequisite: Stat. 1000. Four hrs. lect., 3 hrs. lab. (F, W, Sp)

3310. Bio-mechanics (5)

Bio-mechanics of human movement and the mechanical and muscular analysis of movement patterns. Prerequisites: Biol. 2061, -2. Four hrs. lect., 3 hrs. lab. (F, W, Sp)

3320. Physiological Mechanisms in Human Performance (5)

The physiological parameters and mechanisms that determine adaptations of the physiological systems of man in response to exercise. Prerequisites: P.E. 3300, 3310. Four hrs. lect., 3 hrs. lab. (F, W, Sp)

3330. Sensorimotor Skill (5)

The nature of sensory-motor skills. Analysis of the motor systems and mechanisms of basic sensory-motor integration. An overview of skill acquisition. Prerequisites: Psych. 2010, P.E. 3300, 3310. Four hrs. lect., 3 hrs. lab. (F, W, Sp)

3500. History of Dance (4)

The historical development of dance and its role in culture from ancient through contemporary times. Prerequisite: junior standing. (W, Sp)

3700. Athletics of the Ancient World (4)

The form and role of athletics and related agonistic practices in Ancient and Medieval Societies. Prerequisite: junior standing. Hist. 1011 recommended. Four hrs. lect./disc. (F, W)

3710. Rise of Modern Sport (4)

The social history of sport as it evolved from renaissance society into an organized modern phenomenon. Prerequisite: junior standing. (Hist. 1013 and/or Hist. 1102 recommended.) Four hrs. lect./disc. (Sp)

3720. Development of American Professional Physical Education (4)

Historical development of thought and practice in athletics and physical education in American Education. Prerequisite: junior standing. Four hrs. lect./disc. (F, Sp)

3730. Racism in Sports (4)

Dynamics of institutional racism in sports. Psychoblockology, soul action vs. western perceptability. Soma-psycho-social-econo factors, myths, hang-ups, emphasis, the black side. (F, W)

4220. Dance Seminar (4)

Discussions of problems in creative process of choreography, phenomenon of performance, aesthetics and criticism of the art product. Prerequisites: P.E. 3241 or 3242, and 2080 or equivalent. (Sp)

4320. Physiology of Exercise (5)

The role played by the major physiological systems in determining man's work capacity under different environmental conditions and as a result of continuous exercise. Prerequisite: P.E. 3320. Four hrs. lect., 3 hrs. lab. (W)

4330. Sensorimotor Skill Acquisition (5)

Conditions of sensory-motor skill acquisition. Personality factors in relation to competition and sports group interaction. Prerequisite: P.E. 3330. Four hrs. lect., 3 hrs. lab. (F)

4340. Motor Development (4)

Physical growth, body build and motor development through childhood, adolescence and the adult stage. Age and sex differences in typical motor performances. Prerequisites: P.E. 3300, 3320, 3330 and senior standing. Four hrs. lect./disc. (Sp)

4390. Seminar in Kinesiology (4)

Seminar on special topics selected from current kinesiological research literature. Prerequisites: P.E. 3300, 3310, 3320, 3330 and two of P.E. 4320, 4330, 4340 and honors standing. (Sp)

4500. Dance in Contemporary Society (4)

Forms and functions of dance in contemporary society, as art, therapy, entertainment, education as reflection of state of culture. Prerequisite: P.E. 3500, or consent of instructor. Four hrs. lect. (F)

4720. Sport in Contemporary Society (4)

The incidence, form, and regulation of sport and physical activity in contemporary societies. Prerequisites: Soc. 2000 and 2400. Four hrs. lect./disc. (F, W)

4790. Seminar in Social Theory of Sport (4)

Man, play and games. Study and discussion of selected readings—Huizinga, Caillou, Slusher, McIntosh. Prerequisites: P.E. 3700, 3710, and 4720, honor's standing. Four hrs. seminar. (S)

PROFESSIONAL COURSES**3000-09. Theory of Sport (2 each)**

Instruction at the advanced theory level in designated areas of sport, including analysis of skill, game strategy, and specific techniques of coaching. Organization of the sport, training, and conditioning. Prerequisites: P.E. 3310 (for certain sections only; consult the department), experience specific to each section, upper-division standing, and permission of instructor.

00. Football (F)	05. Softball (Sp)
01. Field Hockey	06. Track & Field (F, W)
02. Basketball, men (W)	07. Gymnastics (W, Sp)
03. Basketball, women (W)	08. Wrestling (W)
04. Baseball (W, Sp)	09. Aquatics (W, Sp)

One hr. lect., 2 hrs. act.

4030. Professional Field Experience I (1)

Instruction in and practice of professional technique and methodology through supervised field work. Prerequisites: completion of skill requirements for the major or minor, and senior standing. (A)

4031. Professional Field Experience II (1) (A)**4035. Exercise Prescription (4)**

Application of kinesiological principles to methods of physical conditioning. Systems of progressive resistance exercise, physical fitness and training. Exercise programs for special conditions and effects. Prerequisites: P.E. 3310, 3320, and P.E. 4320. Three hrs. lect., 2 hrs. act. (F, W, Sp)

4750. Sport in Contemporary Writings (4)

An analysis of selected writings on man's search for the meaning of sport. (F, W)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****5200. Methods and Materials in Health and Physical Education (3)**

Methods of teaching physical education and health education on the secondary level. Instructional materials, audio visual resources, classroom organization, management and evaluative techniques. Prerequisite: Senior standing. (F)

5210. Elementary School Physical Education (3)

The elementary school physical education program. Games, sports, fundamental rhythms and dances, and other activities commonly taught on the elementary level. Prerequisite: teaching experience or consent of instructor. (F)

5235. Creative Dance for Children (3)

Theory and techniques for developing the creative capacities of the child through dance participation and leadership in creative dance provided by means of a special class with children. Prerequisite: Modern Dance (P.E. 1004). Two hrs. lect., 2 hrs. act. (F, W)

5400. Care and Prevention of Athletic Injuries (5)

Application of kinesiology to the analysis, care, and prevention of athletic injuries, including protective strapping, physical reconditioning and sport medicine. Prerequisites: P.E. 3310 and 3320. Four hrs. lect., 3 hrs. lab. (F, W)

5420. Psycho-Social Factors in Competitive Athletics (3)

Analysis and application of psychological and sociological data related to participation of coach and athlete in competitive sports programs. Special emphasis on nature of competition, coach-athlete interaction, problem athlete and coach. Prerequisites: Senior or graduate standing, P.E. 3330 and 4720. Three hrs. lect. (Y)

5440. Adapted Physical Education (5)

A study of the theory and practice of adapted physical education as applied to the exceptional person. Special emphasis on contribution of kinesiology to physical education for the handicapped. Prerequisite: P.E. 3310. Four hrs. lect., 3 hrs. lab. (A)

5550. Applied Kinesiology (4)

The application of theoretical kinesiological principles to practical teaching situations. Appropriate practice in construction and administration of evaluative techniques in skill parameters. Prerequisite: P.E. 3300. Three hrs. lect., 3 hrs. lab. (Sp)

5610. Seminar on Physical Education Programs and Facilities (4)

Development of various aspects of the school physical education program, including the preparation of instruction and the functional planning of facilities. Prerequisite: senior or graduate status. (Y)

5620. Seminar for Supervision in Physical Education (4)

Analysis of present trends in physical education, their relationship to the school programs, staffing needs, program development. Supervisor's role in elementary schools, in-service training. Prerequisite: senior or graduate status. (Y)

5900. Independent Study (1-4)

5920-5999. Directed Group Study (1-4)

HEALTH EDUCATION COURSES

1110. Concepts of Health (3)

Analysis of the basic concepts and principles of individual health. Investigation and evaluation of contemporary health problems and information. (A)

4600. Health Programs (3)

Health services, environment, and information for community and social institutions. Administration and interpretation of medical examinations. (F, Sp)

5100. Health Appraisal and Guidance (3)

Recognition and appraisal of illness or disability in the classroom situation; handling of emergencies. (W)

GRADUATE COURSES

(For complete descriptions of the following courses, see the Graduate Catalog.)

P.E. 6200. Foundations of Graduate Research (3)

P.E. 6201. Research Design in Kinesiology (3)

P.E. 6400. Seminar in Biomechanics (4)

P.E. 6410. Seminar in Sensorimotor Skill (4)

P.E. 6420. Seminar in Exercise Physiology (4)

P.E. 6430. Seminar in Historical Aspects of Physical Education and Sport (4)

P.E. 6440. Seminar in Sport and Contemporary Society (4)

P.E. 6450. Seminar in Motor Development (4)

P.E. 6600. Seminar in Comparative Physical Education (4)

P.E. 6850. Supervised Research (2-4)

P.E. 6900. Independent Study (1-4)

P.E. 6910. Master's Thesis (1-6)

P.E. 6920-6999. Directed Group Study (1-4)

Physical Science

Offered in the School of Science

1340. Principles of Physical Science (5)

Fundamental principles of physics and chemistry with applications to astronomy, meteorology and geology. Not open to students having credit for lower-division courses in chemistry or physics. Prerequisite: high school algebra. Four hrs. lect., 3 hrs. lab. and problem session. (A)

1920-1999. Directed Group Study (1-4)

4100. Analysis of Physical Science Concepts (3)

The development of physical science using original writings of key figures from the Greeks to contemporary physicists. Prerequisite: upper-division standing, with major or minor in a physical science. Three hrs. lect. (Sp)

4900. Independent Study (1-4)

4920-4999. Directed Group Study (1-4)

(See SCIENCE EDUCATION Section for the Following Courses:)

5120. Science in the Secondary School (Physical Science) (3)

5900. Independent Study (1-4)

5920-5999. Directed Group Study (1-4)

Physics

Offered in the Department of Physics *

1101, 1102, 2101, 2102, 2103. General Physics (3 each)

All major fields of physics are covered in the sequence, using mathematical models to explain physical phenomena. For physics, physical science, earth science (Option A), chemistry (B.S.) and mathematics majors. Prerequisites: Math. 1304 is a prerequisite or it may be taken concurrently with Phys. 1101. Each course is a prerequisite for the one following.

1101. Mechanics (W, Sp)

1102. Wave Motion, Heat and Thermodynamics (Sp, Su)

2101. Electricity and Magnetism (F)

2102. Electromagnetic Waves and Light (W)

2103. Atomic and Nuclear Physics (Sp)

Three hrs. lect. each.

1181, 1182. Freshman Physics Laboratory (1 each)

Experiments in mechanics, wave motion, sound and heat. Measurement techniques and accuracy. May not be taken before enrolling in Phys. 1101. Three hrs. lab. each. (W, Sp, Su)

1700. Elements of Physics * (3)

A relatively non-mathematical survey of classical and modern physics, including mechanics, electricity, quantum mechanics, relativity, and recent developments; some discussion of the history and philosophy of science. No prerequisite. Three hrs. lect. (A)

1710. Descriptive Astronomy * (5)

A survey course emphasizing description; astronomical methods, planets, stars, constellations, galaxies, stellar objects and their evolution. Prerequisite: high school algebra. Five hrs. lect. (F, Sp, Su)

1780. Elementary Physics Laboratory * (1)

A relatively non-mathematical lab designed to accompany Phys. 1700. Experiments deal with mechanics, electronics, radioactivity, etc., at an elementary level, and introduce the student to various types of equipment including oscilloscopes and geiger counters. No prerequisite. Three hrs. lab. (A)

2181, 2182, 2183. Sophomore Physics Laboratory (1 each)

Experiments in electricity, magnetism, light, atomic physics and radioactivity. May not be taken before enrolling in Phys. 2101. Three hrs. lab. each. (F, W, Sp)

1920-1999. Directed Group Study (1-4)

2701, 2702, 2703. Introductory Physics * (3 each)

A three-quarter sequence in general physics, designed primarily for students majoring in the biological sciences (including pre-professional students), chemistry (B.A.), and earth sciences (Options B, C) or for non-science majors requiring a good foundation in physics. Does not

* Courses in the 1700, 2700, and 3700 series are for students who are *not* majoring in physics.

360 / Physics

satisfy prerequisite requirements for further work in physics nor for graduate work in some fields of biology, chemistry and geology. Knowledge of algebra and trigonometry required. Three hrs. lect. each.

2701. Force, Mass and Motion (F, W, Sp)

Prerequisite: Math. 1130, high school trigonometry.

2702. Heat, Sound, Electricity and Magnetism (W, Sp, Su)

Prerequisite: Phys. 2701.

2703. Light and Modern Physics (Sp, Su, F)

Prerequisite: Phys. 2702.

2781, 2782, 2783. Physics Laboratory * (1 each)

Experiments in mechanics, heat, sound, electricity, magnetism, optics, atomic physics and radioactivity, with emphasis on illustrative content. May not be taken before enrolling in Phys. 2701. Three hrs. lab. each. (F, W, Sp)

3181, 3182, 3183. Junior Laboratory (1-3 each)

Supervised experimental projects in electricity, magnetism, optics, atomic and nuclear physics. Prerequisite: Phys. 2103, Phys. 2183, or consent of instructor. Three hrs. lab. each unit. Transfer students check with instructor. (F, W, Sp)

3311, 3312. Analytic Mechanics (4 each)

Fundamentals of statics, kinematics, dynamics of rigid bodies, introduction to Lagrange's and Hamilton's equations. Prerequisites: Phys. 2103, Math. 3331, or consent of instructor. Phys. 3311 is prerequisite to Phys. 3312. Four hrs. lect. (F, W)

3331, 3332. Electricity and Magnetism (4 each)

Theory of electrostatics, magnetostatics, magnetism, steady and varying currents, electron theory and electromagnetic waves. Prerequisite: Phys. 2103, Phys. 2183, Phys. 3811, Math. 3331 or consent of instructor. Phys. 3331 is prerequisite to Phys. 3332. Four hrs. lect. (W, Sp)

3510. Electronics (4)

Introduction to electronics, including properties of vacuum tubes and transistors, circuit analysis, and instrumentation. Prerequisite: Phys. 2103 or consent of instructor. Three hrs. lect., 3 hrs. lab. (F)

3700. Radiation and Man (4)

Ionizing radiation sources; uses in nuclear power, industry, medicine, research; benefits, hazards; government policy. Suitable for general education requirements. Not an elective for the Physics major. Prerequisite: Upper division standing. (F)

3720. Quantum Physics (4)

Introduction to quantum physics; Schrödinger's equation, harmonic oscillator, hydrogen atom; applications to atoms, molecules and identical particles. For science students who are not physics majors. Prerequisites: Chem. 1103, Phys. 2103 or Chem. 4513, Math. 2304. Four hrs. lect./disc. (Tent. Sp)

3811, 3812. Introduction to Mathematical Physics (4 each)

A course in the mathematical treatment of problems in physics. Emphasis is placed on the setting up of problems and the physical interpretation of solutions. Prerequisites: Math. 3331 and junior standing. (F, Sp)

* Courses in the 1700, 2700, and 3700 series are for students who are *not* majoring in physics.

4170. Nuclear Physics (3)

Natural and artificial radioactivity, nuclear transformations, nuclear structure, magnetic moments, nuclear radiations, mesons, high energy physics. Prerequisite: Phys. 4321 or consent of instructor. Three hrs. lect. (Tent. Sp)

4181, 4182, 4183. Senior Laboratory (1-3 each)

Experimental or theoretical projects, including design, equipment prescription, and data interpretation. Topic and units selected with assistance of a supervising faculty member. May be repeated for credit. Prerequisite: senior standing. Three hrs. lab. each unit. (4181—F, 4182—W, 4183—Sp)

4210. Physical Optics (4)

The phenomena of diffraction, interference and polarization of light and their applications. The mathematical theory of waves. Prerequisite: Phys. 3332 or consent of instructor. Four hrs. lect. (F)

4310. Statistical Physics (4)

The thermodynamic functions and equations of state as developed classically and from the application of statistics to aggregates of microscopic systems. Prerequisite: Phys. 2103 or equivalent. Four hrs. lect./disc. (W)

4321, 4322, 4323. Modern Physics (4 each)

4321—Quantum theory; 4322—Atomic and Molecular physics; 4323—Nuclear and Particle physics. Prerequisites: Phys. 3312, 3332. Phys. 4321 is prerequisite to 4322; Phys. 4322 is prerequisite to 4323. Four hrs. lect. each. (F, W, Sp)

4410. Introduction to Solid State Physics (4)

Crystal structures, dielectric, thermal and mechanical properties, metals and semi-conductors, superconductivity, mechanical properties. Prerequisites: Phys. 4321 or equivalent. Four hrs. lect. (Sp)

4900. Independent Study (1-4)

4920-4999. Directed Group Study (1-4)

GRADUATE COURSES

(For complete descriptions of the following courses, see the Graduate Catalog.)

Phys. 6311. Classical Theoretical Physics (Mechanics) (4)

Phys. 6312. Classical Theoretical Physics (Electromagnetism) (4)

Phys. 6313. Classical Theoretical Physics (Statistical Physics) (4)

Phys. 6321,-2,3. Quantum Mechanics I, II, III (4,4,4)

Phys. 6811. Mathematical Methods of Physics (4)

Phys. 6870. Graduate Seminar (1)

Phys. 6880. Selected Topics in Advanced Physics (2-4)

Phys. 6900. Independent Study (1-4)

Phys. 6910. Thesis (1-9)

Phys. 6920-6999. Directed Group Study (1-4)

Political Science

Offered in the Department of Political Science
AMERICAN GOVERNMENT AND POLITICS

1201-2. American Political Institutions (4 each)

Development of political institutions and ideals in the U. S. from the Puritan community to date. The development of such ideals as freedom, equality and democracy; development of branches of government, political parties, and the changing role of government. Meets code requirement in U.S. History, U.S. Constitution, and California government. Prerequisite to 1202 is 1201. (A)

3100. American National, State and Local Government (4)

Relationships of various governments in the United States; the organization, processes and problems of national, state and local government. Meets requirement in the U. S. Constitution and in California state and local government. May not be taken for credit in the political science major or by students who have already had Pol. Sci. 1201 or equivalent. (Y)

3111. The American Executive (4)

The position of the executive in national, state and local governments: the powers and duties of the executive; leadership role of the executive in government, political parties and public opinion. (Y)

3112. American Legislatures and Legislation (4)

Organization and functioning of Congress, state legislatures, local councils and boards with particular attention to California; pressure groups; committee systems; executive-legislative-judicial relations; selected reform proposals. Prerequisite: Pol. Sci. 1201 or 2011 or consent of instructor. (Y)

4120. State and Local Government and Politics (4)

State constitutions; legislative, judicial, administrative and electoral systems; contemporary problems and issues, with special reference to California and San Francisco Bay Area government organization and problems. Satisfies the California state and local government requirement. (Y)

4130. Urban Governments (4)

Organizations and functions of metropolitan areas; the web of governments and growth of authorities and boards; problems of finance, crime, planning, welfare and others; emphasis on Bay Area planning and problems. (Y)

4170. Selected Problems in American Government (4)

Focus on a particular problem of importance and interest in the field as defined by the instructor. Consult departmental office for details. (On demand)

4171. The Politics of the Environment (4)

Historical and contemporary political aspects of pollution, land use, wildlife management, overpopulation. (Y)

4310. Political Parties in the U.S. (4)

An evaluation and study of parties in the political process: electoral, educative, organizational, and governing functions. Party structure and reorganization. (Y)

4320. Political Behavior (4)

The individual and group aspects of political behavior; social and psychological factors in politics; consideration of available research on voting behavior; extreme belief and affiliation; leadership; participation. Prerequisite: Pol. Sci. 1201 or equivalent. (Y)

4330. Pressure Groups and Political Power (4)

Private power and American public policy; the nature and sources, strategy and tactics of pressure group power in the American political process. Business, labor, agriculture, the professions, minority groups, and religion as organized groups influencing political decision making. (Y)

4340. The Political Status of Women (4)

An examination of the political position of women. Political behavior, political socialization, political psychology, anthropological and biological data will be examined. Prerequisite: Upper division standing or consent of instructor. (Y)

4370. Selected Problems in Political Behavior (4)

Focus on a particular problem of importance and interest in the field as defined by the instructor. Consult departmental office for details. (On demand)

4380. Chicano Politics (4)

Seminar on politics of the Mexican-American including social, economic, and legal aspects. Examination of Chicano political organizations and activities with emphasis on interaction between ethnic consciousness and political interest group action. Directed field research. Prerequisite: MAS 2001-2002 or equivalent approved by instructor. (Y)

COMPARATIVE GOVERNMENT AND POLITICS

4222. Government and Politics of the USSR (4)

The political ideas and institutions of the USSR: philosophical foundations; role of Communist party; organization and functions of government; place of the individual in Soviet society. (Y)

4223. Government and Politics of Western Europe (4)

The political ideas and institutions of the major Western European nations: England, France. Prerequisite: a course in European history or consent of instructor. (Y)

4224. Government and Politics of Western Europe (4)

The political ideas and institutions of the major Western European nations: Germany, Italy, and Switzerland. Prerequisite: a course in European history or consent of instructor. (Y)

4230. Government and Politics in the Middle East and North Africa (4)

Introduction to the study of contemporary politics in the Middle East and North Africa. The approach is comparative and analyzes the politics, social, religious, and economic aspects of the area. (Y)

4241. Government and Politics on the Indian Subcontinent (4)

Dynamics of political modernization; problems of nation-building, political authority, national identity, participation, etc.; interaction between politics and social and economic development; emphasis upon contemporary governmental structure, interest articulation, political parties. (Y)

4248. Government and Politics of China (4)

Development of political ideas and institutions in Communist and Nationalist China, with emphasis upon nationalism, communism, constitutional development, foreign policy and current political problems. (Y)

4249. Government and Politics of Japan (4)

Development of political ideas and institutions, with emphasis upon constitutional development, political parties and movements, legislation, foreign policy and current political problems. (Y)

4260. Government and Politics of Africa South of the Sahara (4)

The governments of the independent states and dependent territories of Africa south of the Sahara, with special reference to comparative colonial policies, nationalism, political parties and the problems of nation building, pan-Africanism and inter-state relations. (Y)

4270. Selected Problems in Comparative Government (4)

Focus on a particular problem of importance and interest in the field as defined by the instructor. Consult the departmental office for details. (On demand)

4280. Political Systems of Latin America (4)

Political development, instability, and revolution in a comparative framework. Case studies of political development in major countries; group conflicts, ideology, administrative problems, and the role of violence. (Y)

4440. Comparative Study of Political Controls (4)

(See Anth. 4440 for course description.)

PUBLIC LAW**3410. Law and Society (4)**

Organization, jurisdiction and functions of national, state and inferior courts, with particular attention to California; judicial decision making and group dynamics; place of law in American society; analysis of selected reform proposals. (Y)

3411. Law and the Poor (4)

Study of criminal, welfare, domestic, and other proceedings in which an individual may lose his reputation, liberty, or property, with specific reference to the poor. (Y)

3412. Women and the Law (4)

Legal, social, economic aspects of women's status. Court opinions and scholarly materials in employment, marriage and family, divorce, child custody, education, criminal and prison law, welfare and abortion. (Y)

3503. Philosophy of Law (4)

(See Phil. 3503 for course description.)

4441. American Constitutional Law (4)

United States Constitution as interpreted by the courts in the areas of the federal system; taxation, commerce and implied powers; inter-governmental relations; separation of powers; emphasis upon the social, economic and political factors. (Y)

4442. American Constitutional Law (4)

United States Constitution as interpreted by the courts in the areas of freedom of speech, press, religion, assembly; self incrimination; desegregation; due process; criminal procedures and safeguards. Emphasis upon social, economic and political factors affecting court decisions. (Y)

4450. Administrative Law (4)

Administrative function in the American national and state systems: foundation of administrative power; judicial supervision of administration; status of regulatory and quasi-judicial agencies; delegation of legislative and executive powers. (Y)

4470. Selected Problems in Public Law (4)

Focus on a particular problem of importance and interest in the field as defined by the instructor. Consult the departmental office for details. (On demand)

INTERNATIONAL RELATIONS**3000. Contemporary World Problems (4)**

Examination of problems faced by world leaders: destructive weaponry; food and population; violence and revolution; racial tensions. Influence of psychological factors on their resolution. (F, W, Sp)

3520. International Relations (4)

Analytical introduction to international relations; nationalism; imperialism; racial, population, and economic factors; war; settlement of international disputes by methods other than war: foreign policies of the major powers. (F, W, Sp)

3550. Race and Color in International Relations: A Seminar (4)

Racial tensions in inter-state relations; varieties of racism; migration, colonialism, poverty, propaganda, apartheid. Individual research reports. (Y)

4505. American Foreign Policy (4)

Formulation and execution of United States foreign policy; major current American foreign policies. (Y)

4530. Diplomatic History of the United States to 1898 (4)

(See Hist. 4530 for course description.)

4531. Diplomatic History of the United States Since 1898 (4)

(See Hist. 4531 for course description.)

4540. Principles of International Law (4)

Evolution, function, and principles of international law; law of peace: international personality, recognition, jurisdiction, seas and space, treaties, pacific settlement of disputes; law of war: belligerency, neutrality, land warfare, subversion, revolution. Prerequisite: Pol. Sci. 3520 or consent of instructor. (Y)

4550. International Organization (4)

History and critical review of international organization; theories of balance of power, collective security, world law and order, functional development. Emphasis on the League of Nations and the United Nations. Problems of function, structure and procedure. Prerequisite: Pol. Sci. 3520 or consent of instructor. (Y)

4560. Soviet Foreign Policy (4)

The basic factors which underlie and condition Soviet foreign policy; goals in particular areas and fields of activity; methods, strategy and tactics of USSR in foreign policy. Prerequisite: Pol. Sci. 3520 or consent of instructor. (Y)

4570. U.S. and the Far East (4)

Forces influencing the relations between the U.S. and the states of the Far East; analysis of foreign policies of major Asian nations and factors leading to cooperation and conflict between U.S. and these states. (Y)

4580. Development and Revolution in the Americas (4)

Foreign policies of the various states in the light of domestic political forces, the role of international forces in domestic politics. Case studies of U.S. policy for stability, development, and aid; military interventions, economic sanctions, and inter-American cooperation. (Y)

4670. Selected Problems in International Relations (4)

Focus on a particular problem of importance and interest in the field as defined by the instructor. Consult the departmental office for details. (On demand)

POLITICAL THEORY**4711. Ancient and Medieval Political Thought (5)**

Major Western Political ideas from the Greeks through the 15th century. Emphasis upon major political theorists in the development of classical Greek and Roman, Medieval Christian, and Renaissance political theory. Cross-listed with Hist. 4711. (Y)

4712. Early Modern Political Thought (5)

Major Western political ideas from 1500 to 1800. Emphasis upon major figures in the development of modern scientific, natural rights, nationalistic, and power theories. Cross-listed with Hist. 4712. (Y)

4713. Contemporary Political Thought (5)

Major Western political ideas in the 19th and 20th centuries. Emphasis upon central figures in the development of Democratic, Marxist, Socialist, and various other contemporary bodies of political theory. (Y)

4720. Totalitarian Ideologies (4)

Analysis of doctrines of Communism, Nazism, Fascism and related "isms" and their impact on the practices of totalitarian states. Prerequisite: Pol. Sci. 4713 or a course in modern European history or consent of instructor. (Y)

4731. Early American Political Thought (4)

American political thought from the founding to 1860; the Puritans, revolutionary doctrines, Jeffersonian and Jacksonian democracy, the Transcendental and Utopian Socialist contribution, the slavery controversy. (Y)

4732. Recent American Political Thought (4)

American political ideas of the last hundred years. Emergence of social Darwinism and its critics, the reform movements of the 19th and 20th centuries, theories of liberal democracy, the new conservatism, the role of political theory in the political process. (Y)

4770. Selected Problems in Political Theory (4)

Focus on a particular problem of importance and interest in the field as defined by the instructor. Consult the departmental office for details. (On demand)

GENERAL**1920-1999. Directed Group Study (1-4)****2011. Principles of Political Science (4)**

Examination of central questions asked and key concepts and methods used in the systematic study of politics. Emphasis on comparative analysis and empirical research. (F, W, Sp)

2012. Elements of Comparative Government (4)

Comparative political systems: dictatorships and democracies; presidential and parliamentary systems; federal and unitary; multi-party, two-party and single party systems; problems of stability and change. (Formerly Pol. Sci. 3210. May not be taken for credit by students who have completed 3210.) Prerequisite: Pol. Sci. 2011, or consent of instructor. (F, W, Sp)

3113. Political Internship (4)

Practical experience on a legislative or executive staff or in a campaign organization. May be taken CR/NC. Prerequisite: Permission of instructor; Pol. Sci. 3112 for a legislative internship. One hr. lect., 6 hrs. act. (Y)

3910. Foreign Views of American Democracy (4)

Examination of stereotypes and images of America held by individuals of other nations since the 1700s. Observations of de Tocqueville, Bryce and other leading commentators. (On demand)

4690. Senior Seminar in American Studies (2)

Interdisciplinary seminar on topics in American civilization. Open only to seniors in American Studies. Concurrent registration for 2 units of Pol. Sci. 4900 is required. May be repeated for credit with consent of instructor. (On demand)

4800. Honors Seminar in Political Science (4)

A seminar consisting of intensive reading and research on specific topics. Emphasis on discussion of student papers. Course may be taken three times for credit. Prerequisites: Pol. Sci. 1201-1202, Pol. Sci. 2011, Pol. Sci. 2012, 3 upper division political science courses, and admission to the Honors Program in Political Science. (F, W, Sp)

4900. Independent Study (1-4)**4910. Political Science Seminar (4)**

Contributions of natural and social science theories, methods, results for political science; scope and method of political science; individual research on selected topics. Open to seniors only. (F, W, Sp)

4920-4999. Directed Group Study (1-4)**GRADUATE COURSES**

(For complete descriptions of the following courses, see the *Graduate Catalog*)

Pol.Sc. 6000. Graduate Seminar in Political Science Methodology (5)**Pol.Sc. 6180. Graduate Seminar in American Government and Politics (4)****Pol.Sc. 6280. Graduate Seminar in Comparative Government (4)****Pol.Sc. 6480. Graduate Seminar in Public Law (4)****Pol.Sc. 6580. Graduate Seminar in International Relations (4)****Pol.Sc. 6780. Graduate Seminar in Political Theory (4)****Pol.Sc. 6900. Independent Study (1-4)****Pol.Sc. 6910. Thesis (1-5)****Pol.Sc. 6920-6999. Directed Group Study (1-4)****Portuguese**

See Foreign Languages, page 300.

Psychology

Offered in the Department of Psychology

1920-1999. Directed Group Study (1-4)**1500. Survey of Human Development (4)**

Theory and research in human development; physical and physiological changes, perception, cognition, learning, personality and social behavior. No credit toward the Psychology major. (F)

2000. General Psychology I (5)

An introduction to the scientific study of basic processes underlying human and animal behavior: sensation and perception, learning and thinking, motivation and emotion. Four hrs. lect., 2 hrs. act. (F, W, Sp)

2010. General Psychology II (4)

A survey of method, content, and theory in the scientific study of behavior. Selected problems of psychology viewed in terms of the experiments by which they have been investigated. Prerequisite: Psych. 2000. (F, W, Sp)

3050. Instrumentation for Psychology (4)

A laboratory course which surveys apparatus and methods used within instrumentation for psychology. Basic principles of operation of laboratory equipment are covered. Prerequisite: Psych. 2010 or consent of instructor. Three hrs. lect., 3 hrs. lab. (Y)

3100.* Experimental Psychology (5)

A laboratory course in the development, design, and execution of psychological experiments and the analysis of data. Prerequisites: Psych. 2010, Stat. 3000 (formerly 2000). Three hrs. lect., 6 hrs. lab. (F, W, Sp)

3200. Psychological Testing (4)

Survey of individual and group tests. Prerequisites: Psych. 2010, or senior standing and Psych. 2000, or consent of instructor; Stat. 1000. (Y)

3500. Social Psychology (4)

Current theory and research on the individual in society, small groups, and interpersonal interaction. Socialization, social structure, attitude formation, and group structure. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (F, W, Sp)

3510. Attitudes and Opinions (4)

The study of social attitudes and opinions; design of research and critical analysis of data. Results of attitude studies, opinion surveys, and content analyses as related to differences between individuals, groups, roles and statuses. Prerequisite: Psych. 3500. (On demand)

3520. The Psychology of Small Groups (4)

Group development; leadership roles; interpersonal interaction in a group setting; types of group atmosphere; research designs and critiques of small group behavior; sociodrama. Prerequisite: Psych. 3500. (Y)

4200. Conditioning and Learning (4)

Basic principles and results of conditioning and learning experimentation. Prerequisite: Psych. 3100. (Y)

4210. Theories of Learning (4)

A survey of theories of learning with emphasis upon the experimental work arising from alternative conceptual systems, discussed in terms of their underlying assumptions and their methodological approaches to research problems. Prerequisite: Psych. 4200; Psych. 4300 is recommended. (Y)

4220. Cognitive Processes (4)

Selected topics on thinking and information processing in humans. Various theories of cognitive functioning are considered and selected experiments are described, analyzed and interpreted. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (Y)

* Enrollment restricted. Apply in department office at the beginning of the quarter before desired enrollment.

4300. Motivation (4)

Nature of primary and secondary drives. Critical analysis of the concept of motivation in relation to behavior, learning and performance. Prerequisite: Psych. 4200. (Y)

4310. Comparative Psychology (4)

Basic psychological processes in relation to animal behavior. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (Y)

4320. Physiological Psychology I (4)

The biological foundations of human and animal behavior, including physiological processes related to sensory and motor activity, perception, learning, thinking, motivation and emotion. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (Y)

4330. Physiological Psychology II (4)

Continuation of Psych. 4320. Prerequisite: Psych. 4320. (Y)

4345. Sensory Processes (4)

The interaction of sensory receptors and physical stimuli, post-sensory neural networks, psychophysical methods and findings. Not open for credit to students who have taken Psych. 4340. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (Y)

4346. Perceptual Processes (4)

Higher order perceptual processes, including perceptual organization, pattern and speech recognition, attention, perceptual learning and theories of perception. Prerequisites: Psych. 4320 or 4345 (formerly 4340) or consent of instructor. (Y)

4350. Heredity and Behavior (4)

A consideration of genetic and environmental determinants of behavior and psychological characteristics of animals and humans. Prerequisites: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (On demand)

4360. Psychopharmacology (4)

Selected topics in psychopharmacology: principles of drug action; methodology; drug effects on creativity, sleep and dreams, sexual behavior, social behavior; drug abuse and toxicity. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (Y)

4390. History and Systems of Psychology (4)

Survey of historical developments in the emergence of modern scientific psychology. Contemporary theoretical systems discussed with emphasis on how they approach the recurring problems of psychology. Prerequisites: 16 units of upper division psychology and senior standing. (Y)

4401. Mathematical Methods in Behavioral Science I (4)

Psychophysics and choice. Application of elementary probability theory and finite-state models to psychophysical behavior and the psychology of choice. Prerequisite: consent of instructor. (On demand)

4402. Mathematical Methods in Behavioral Science II (4)

Learning and motivation. Application of linear-recursive models and Markov process models to problems in learning. Prerequisite: consent of instructor. (On demand)

4403. Mathematical Methods in Behavioral Science III (4)

Selected topics. Discussion of current developments in the application of mathematical methods to topics of interest in the social behavioral sciences. Prerequisite: consent of instructor. (On demand)

4410. Behavior Pathology (4)

The concepts of normality, abnormality, and psychopathology. Symptom syndromes of neurosis, psychosis and other behavioral abnormalities. Methodological problems in the investigation of mental illness and psychotherapy. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (Y)

4420. Developmental Psychology (4)

The study in depth of selected topics in developmental psychology, e.g., perception and cognition; affective, motivational and moral aspects of social and personal development. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (Y)

4430. Psychology in the Community (4)

Work in community agencies. Weekly seminars will relate psychological principles to problems encountered in practical work. Not applicable to the Psychology major. Credit/No Credit only. Prerequisite: Upper division standing in Psychology major and consent of instructor. One hr. lect., 6 hrs. act. (W, Sp)

4451. Scientific Method in Psychology I (4)

Logic of measurement. Definition of scientific events; analysis of variables, semantic relations, and measurement scales in behavioral studies. Prerequisite: consent of instructor. (On demand)

4452. Scientific Method in Psychology II (4)

Role of theory. Study of logical and semantic criteria for construction or evaluation of theories of behavior. Prerequisite: consent of instructor. (On demand)

4453. Scientific Method in Psychology III (4)

Interplay of theory and experimentation. Study of the influence of theory on the selection and design of experiments as well as the refinement and revision of theories on the basis of experimental findings. Prerequisite: consent of instructor. (On demand)

4610. Psychology of Personality (4)

Critical review of method and content in the study of personality. Historical development of the field, with attention to recent applications of scientific method to problems of personality. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. (Y)

4620. Theories of Personality (4)

Undergraduate seminar: survey and analysis of some major theories of personality, including systematic analysis of theory construction. Prerequisite: Psych. 4610 or consent of instructor. (Y)

4730. Tests and Measurement (4)

Emphasis on the theories underlying the development, analysis, and evaluation of standardized and non-standardized tests. Consideration of principles of measurement. Prerequisite: Psych. 2010 or senior standing and Psych. 2000, or consent of instructor; Stat. 1000. (Y)

4740. Verbal Behavior and Psycholinguistics (4)

Basic psychological aspects of human verbal behavior and related phenomena. The acquisition and development of language, perception of language, and effect of language on thought. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor; (Y)

4790. Psychology of Individual Differences (4)

Critical consideration of representative ideas about ability and other traits. Historical development of measurement of individual differences; relation of measurement of individual differences to psychological theory. Prerequisite: Psych. 2010 or senior standing and Psych. 2000; or consent of instructor. Stat. 3000. (Y)

4800.* Human Learning and Cognition Laboratory (2)

Selected experiments in human learning, verbal learning, abilities and problem solving. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisites: Psych. 3100, one of the following: 4200, 4220, or 4740, and consent of instructor. Six hrs. lab. (Y)

4801.* Learning and Motivation Laboratory (2)

Selected experiments in conditioning, learning and motivation, with an emphasis on sub-human species. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisites: Psych. 3100, 4200, and consent of instructor. Six hrs. lab. (Y)

4802.* Sensation and Perception Laboratory (2)

Selected experiments from psychophysics, perception, vision, audition and olfaction. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisite: Psych. 3100; Psych. 4320 or 4345, (formerly 4340) and consent of instructor. Six hrs. lab. (On demand)

4803.* Physiological Psychology Laboratory (2)

Selected experiments in physiological processes, related sensory and motor activity. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisite: Psych. 3100, 4320, and consent of instructor. Six hrs. lab. (On demand)

4804.* Social and Personality Laboratory (2)

Selected experiments in social psychology and personality problem areas. Experiments will also be designed, executed, analyzed and reported. May be repeated up to three times for credit. Prerequisite: Psych. 3100; Psych. 3500 or 4610; and consent of instructor. Six hrs. lab. (Y)

4805.* Comparative Psychology Laboratory (2)

Research on social organization, communication, perception, activity patterns, learning and behavioral development in animals (insects, fish, reptiles, birds, mammals). Prerequisites: Psych. 3100; 4310 or 4350; and consent of instructor. Six hrs. lab. (Y)

4890. Proseminar (2)

An undergraduate seminar providing an introduction to current topics in psychological research. Topics will vary each quarter. May be taken for credit up to three times. Prerequisites: Senior standing in Psychology and consent of instructor. (Y)

4900. Independent Study (1-4)**4920, 4999. Directed Group Study (1-4)**

* Enrollment restricted. Apply in department office at the beginning of the quarter before desired enrollment. Although courses in the 4800-4805 series may be repeated for unit credit, two different courses are required for psychology majors.

Public Administration

Offered in the Department of Public Administration

4800. Public Administration (4)

Introduction to the study, function, and processes of public administration at the international, federal, state and local levels; culture and administration; survey of administrative theory and behavior, personnel, finance, comparative administration; politics of administration. Administration and public policy. (A)

4830. Administrative Theory and Behavior (4)

Introduction to historical and contemporary themes in administrative theory and behavior; problems of conceptualization and definition of organization; goal setting, system maintenance and adaptation; personality, group dynamics, leadership; administrative change; individual needs and administrative demands; organizational design. Prerequisite: Pu.Ad. 4800 or consent of instructor. (Y)

4900. Independent Study (1-4)

4920-4999. Directed Group Study (1-4)

GRADUATE COURSES

(For complete descriptions of the following courses, see the *Graduate Catalog*.)

Pu.Ad. 6805. Policy and Administration (4)

Pu.Ad. 6806. Seminar Policy Development for Alternative Futures (4)

Pu.Ad. 6808. Seminar in Politics and Ethics of Administration (4)

Pu.Ad. 6811, 12, 13. Organization Theory and Behavior (4 each)

Pu.Ad. 6822. Development of Administrative Institutions (4)

Pu.Ad. 6830. Data Processing and Administrative Analysis (4)

Pu.Ad. 6840. Public Finance Administration (4)

Pu.Ad. 6842. Governmental Budgeting (4)

Pu.Ad. 6850. Public Personnel Systems (4)

Pu.Ad. 6854. Graduate Seminar Public Labor Relations (4)

Pu.Ad. 6864. Graduate Seminar Intergovernmental Relations (4)

Pu.Ad. 6866. Graduate Seminar Science and Public Policy (4)

Pu.Ad. 6870. Comparative Administration (4)

Pu.Ad. 6872. Administration of Metropolitan Government (4)

Pu.Ad. 6874. Graduate Seminar Development Administration (4)

Pu.Ad. 6880. Graduate Seminar Selected Problems in Public Administration (4)

Pu.Ad. 6882. Governmental Health Services Administration (4)

Pu.Ad. 6891. Graduate Seminar Organization Research I (4)

Pu.Ad. 6892. Graduate Seminar Organization Research II (4)

Pu.Ad. 6893. Internship in Public Administration (2)

Pu.Ad. 6900. Independent Study (1-4)

Pu.Ad. 6910. Thesis (1-4)

Pu.Ad. 6920-6999. Directed Group Study (1-4)

Recreation

Offered in the Department of Recreation

1000. Nature and Scope of Recreation (4)

The nature, scope, and significance of recreation, including historical developments; organizational patterns in community recreation. Four hrs. lect./disc. (A)

1920-1999. Directed Group Study (1-4)

2200. Programming and Leadership in Recreation (4)

Analysis of the recreation program—range of activities, influencing factors, planning, organization. Introduction to leadership—general approaches and applications in specific program areas. Activity includes planning and conducting activities for selected community groups. Prerequisite: Rec. 1000. Three hrs. lect./disc., 2 hrs. act. (F, W, Sp)

3000. Historical and Philosophical Foundations of Recreation (4)

History of recreation with emphasis on developments in the United States. Analysis of the roots of current practices, theories, and philosophies; the significance of recreation and leisure in historical perspective. Prerequisites: Rec. 1000; U.S. History recommended. Four hrs. lect./disc. (F, W, Sp)

3500. Recreation and the Individual (4)

Analysis of recreational behavior; factors which influence participation; individual-group interaction in recreation; the influence of leadership and instruction on individual participation. Includes assigned observations in recreation settings. Prerequisites: Rec. 1000; Psych. 3500 or Soc. 3500. Four hrs. lect./disc. (F, W, Sp)

3700. Recreation and the Community (4)

Community factors which influence recreation; inter-relationships of recreation agencies and related agencies at the neighborhood and community level; community councils, commissions, and inter-agency cooperation. Prerequisite: Rec. 1000; introductory courses in sociology and political science recommended. Four hrs. lect./disc. (F, W, Sp)

4000. The Structure of Recreation (5)

The structure of recreation and park agencies, including patterns of organization, administration, and supervision. Field trips. Prerequisite: Rec. 1000. Four hrs. lect./disc., 2 hrs. act. (F, W, Sp)

4300. Recreation Areas and Facilities (4)

Recreation and park facilities at the local and regional levels; the relationship of recreation to such factors as open space, urban sprawl, and land use; introduction to concepts of planning and design. Prerequisite: Rec. 4000. Four hrs. lect./disc. (W, Sp)

4400. Recreation in Urban Settings (4)

Analysis of participant groups and recreation-related organizations in urban areas; recreation and the minority community. Relationship of recreation to factors in city planning. Prerequisites: Rec. 3500, 3700. Four hrs. lect./disc. (F, W)

4600. Recreation in Institutional Settings (4)

Study of the recreational needs and behavior of the aged, the handicapped, and other special groups; recreation in various therapeutic, correctional and custodial settings; relationships of recreation and rehabilitation. Prerequisites: Rec. 3500. Four hrs. lect./discussion. (F, Sp)

4700. State and Federal Recreation (4)

Analysis of recreation at the state and federal levels; involvement of various agencies and bureaus; significant legislation; problems of division of responsibilities and allocation of resources. Prerequisite: Rec. 3700. Four hrs. lect./disc. (F, W)

4890. Field Study and Conference (1)

Directed individual study of specific professional practices in selected recreation and park agencies. Prerequisites: a minimum grade point average of 2.0 overall and in the major. Open only to students who will take Rec. 4910 during the following quarter. (A)

4900. Independent Study (1-4)**4910. Directed Leadership (8)**

Directed leadership experiences in a recreation agency, supervised by agency and college personnel. Prerequisites: Rec. 2200, 3000, 3500, 3700, 4890, and a minimum grade point average of 2.0 overall and in the major. Concurrent registration in Rec. 4915 is required. (A)

4915. Seminar (2)

Analysis of directed leadership experiences; application of theory and principles. Concurrent registration in Rec. 4910 is required. (A)

4920-4999. Directed Group Study (1-4)**5400. Recreation and Park Development (4)**

Procedures used in the development of recreation and park services and facilities; consideration of demographic data, benefit and cost estimates; contributions of landscape architecture, etc. Prerequisites: senior or graduate standing; recreation and park agency experience or consent of instructor. Four hrs. lect./disc. (W)

5500. Community Organization for Leisure (4)

Processes by which a community organizes resources to meet leisure needs; varying responsibilities of public, private and commercial agencies; the relationship of recreation to other community services. Prerequisites: senior or graduate standing; recreation and park agency experience, or consent of instructor. Four hrs. lect./disc. (Sp)

5900. Independent Study (1-4)**5920-5999. Directed Group Study (1-4)****Russian**

See Foreign Languages, page 301.

School Administration and Supervision

Offered in the Department of School Administration and Supervision

(For complete descriptions of the following courses,
see the Graduate Catalog.)

SAS 6000. Leadership and School Organization (4)**SAS 6010. Seminar on Organizational Theory in Education (4)****SAS 6025. Urban School Administration (4)****SAS 6300. Foundations of Curriculum Development (4)****SAS 6410. Public School Supervision and Curriculum Change (4)****SAS 6550. The Public School Principalship (4)****SAS 6600. Business and Legal Aspects of School Administration (4)****SAS 6660. Problems of School Law (4)****SAS 6670. School Finance and Business Administration (4)****SAS 6801, 6802, 6803. Supervised Field Experiences—Administration and Supervision I, II, III (2 each)****SAS 6851, 6852, 6853. Internship in Administration and Supervision I, II, III (2 each)****SAS 6900. Independent Study (1-4)****SAS 6910. Thesis (1-6)****SAS 6920-6999. Directed Group Study (1-4)****Science Education**

Offered in the Department of Biological Science

3000. Basic Physiology of the Cell (4)

(See Biol. 3000 for course description.)

4145. Problems and Practice of Conservation (4)

(See Biol. 4145 for course description.)

5110. Science in the Secondary School (Biological Science) (3)

Curriculum, materials, audiovisual techniques, content, and inquiry methods for secondary school biological science. A similar course, with emphasis on physical science is offered periodically. Prerequisite: consent of instructor. Two hrs. lect., 3 hrs. lab. (F, W)

5200. Scientific Inquiry at the Elementary School Level (4)

An approach to studying science, both in the laboratory and in the field, through the use of scientific inquiry. Practice in directed observation, collecting, recording and charting data and interpreting results. Emphasizes the skills of critical thinking as it relates to problem solving in elementary school science. Prerequisite: Fulfillment of general education science requirements. Two hrs. lect., 6 hrs. lab. (Su)

5201. Concepts of Marine Science (3)

(Offered at the Moss Landing Marine Laboratories)

Major principles and concepts of marine sciences; analysis of research from recent scientific literature. Development of laboratory exercises. Designed for school teachers, teaching credential students. Not open to marine science majors. Prerequisites: MSc 4101 or ESc 3400, MSc 4103, or consent of instructor. Two hrs. lect., 3 hrs. lab. (Su, on demand)

5900. Independent Study (1-4)**5920-5999. Directed Group Study (1-4)**

Offered in the School of Science**5120. Science in the Secondary School (Physical Science) (3)**

Curriculum, materials, A-V techniques, content, and inquiry methods for secondary school physical science. Prerequisite: consent of instructor. Two hrs. lect., 3 hrs. lab. (F)

5900. Independent Study (1-4)**5920-5999. Directed Group Study (1-4)****Offered in the Department of Mathematics****4020. Teaching Mathematics in Elementary Schools (3)**

(See Mathematics section for course description.)

5040. Teaching Mathematics in Secondary Schools (3)

(See Mathematics section for course description.)

Sign Language

See Foreign Languages, p. 302.

Social Science**Offered in the School of Arts, Letters, and Social Sciences****1920-1999. Directed Group Study (1-4)****3001. Social Science I (4)**

Introduction to the broad field of social and behavioral science. The subject fields; their common concerns and relationships; problems of method involved; culture and change; basic sources in social analysis. (F, W, Sp)

3002. Social Science II (4)

Selected case studies in social analysis; the character of social problems, relevance, nature of proof, the meaning of causality, ways in which social theory and practice develop and extend each other. Prerequisite: Soc. Sci. 3001. (Y)

4000. Social Science Seminar (4)

Review of major concepts in social science as tools in developing alternative social policies; directed research in current issues employing relevant data and methods of the several social science fields. Prerequisite: approval of instructor. (Y)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****5000. Teaching Social Science in the Secondary School (3)**

Curriculum, methods, audiovisual techniques, and content in social sciences, grades 7 through junior college. Prerequisite: consent of instructor. (F, W)

5900. Independent Study (1-4)**5920-5999. Directed Group Study (1-4)****Sociology****Offered in the Department of Sociology****1920-1999. Directed Group Study (1-4)****2000. Introduction to Sociology (4)**

Introductory analysis of (a) the structure and functioning of human groups and (b) interrelations between groups; changes in (a) and (b). (A)

2050. Social Problems (4)

A systematic study of major social problems and issues in American life. Not available for credit to sociology majors. (Y)

2100. Asian-American Communities (4)

Focus on the conception, development and composition of Asian-American communities. Study of factors involved in the assimilation of the community into the larger American society. Prerequisite: Soc. 2000. (Y)

2200. Current Population Topics (4)

Designed to provide general, rather than technical understanding of selected current population trends on international, national, and local levels, such as population explosion, urban sprawl, and changing color composition of central cities. (Y)

2400. Introduction to Sociological Research (4)

Study of methodological problems in Sociology in relation to the analysis of social organizations; examination of research strategies; utilization of associated laboratory exercises to illustrate the important aspects of the research process in Sociology. Two hrs. lect./disc., 4 hrs. act. Prerequisite: Soc. 2000. (A)

3100. Human Ecology (4)

Introduction to theory and research on human ecosystems, with their interrelated components of population, environment, technology, and organization. Emphasis on forms of social organization which result from the interaction of the components. Prerequisite: Soc. 2000. (Y)

3200. Introduction to Population Analysis (4)

Major trends in population growth, distribution and composition. Introduction to population theories and analytic techniques. Individually supervised student projects. Three hrs. lect., 2 hrs. lab. Prerequisite: Soc. 2000. (Y)

3300. History of Social Thought (4)

Development of thought concerning human society from earliest times until the middle of the 19th century. Prerequisite: Soc. 2000. (Y)

3310. Current Sociological Theory (4)

Critical analysis of the works of leading sociological theoreticians from the middle of the 19th century to the present. Prerequisite: Soc. 2000. (A)

3410. Sociology of the Family (4)

A study of the family with respect to its institutional, organizational and interactional character. Emphasis upon comparative study and analysis based upon field projects. Prerequisite: Soc. 2000. (A)

3415. Sociology of the Afro-American Family (4)

Sociological analysis of the Black family, tracing its changing form from Africa to present day America. Emphasis on the interrelationship of social structure with the institutional and interactional character of the Black family. Prerequisite: Soc. 2000. (Y)

3416. The Mexican American Family (4)

A study of family in Mexican-American culture, the roles of family members in intra-cultural and inter-cultural relations. Prerequisite: Soc. 2000. (Y)

3420. Social Stratification (4)

Examination of past and probable future interrelations among the major bases of social differentiation in various societal types, with emphasis on urban-industrial society. Individual supervised student projects. Prerequisite: Soc. 2000. (Y)

3430. Comparative Society (4)

Structure of the social organizations and institutions within the cultural contexts of selected societies. Comparative study of historical and current differences as related to ideological, technical and organizational processes. Prerequisite: Soc. 2000. (A)

3440. Modern Technology and Society (4)

Systematic analysis of the nature of technology and its role in modern society; handicraft technology contrasted with industrial technology; relationships between technology and social organization; problems of industrialization and automation in modern society. Prerequisite: Soc. 2000. (Y)

3500. Social Psychology (4)

Current theory and research on the individual in society, small groups, complex organizations and interpersonal interaction. Such topics as socialization, social structure, attitude formation, and group structure. Prerequisites: Soc. 2000. (A)

3510. Social Change (4)

Descriptive analysis of social change in technology, social institutions and systems of symbolism; social movements; field projects related to social change. Prerequisite: Soc. 2000. (Y)

3520. Minority Groups (4)

Racial and cultural minority groups in the United States; problems of education, social adjustment, family life, relations in industry, race consciousness, race and cultural prejudice, tension areas, assimilation; race problems in international relations. Prerequisite: Soc. 2000. (A)

3700. Introduction to Social Services (4)

A systematic analysis of the development of social services in reference to the normative and non-normative functioning of social systems. Field projects. Prerequisite: Soc. 2000. (A)

3710. Social Legislation and Public Policy (4)

Investigation of policy and legislation affecting social services, including influence of values on public policy, with emphasis on impact of these policies as they affect minorities. Prerequisite: Soc. 2000. (Y)

3730. Juvenile Delinquency (4)

A systematic analysis of theories seeking to explain juvenile delinquency together with the research data that test them. Various practices and procedures which deal with problems of treatment and rehabilitation of youthful offenders. Prerequisite: Soc. 2000. (Y)

3745. Social Deviance (4)

The formation and composition of sub-cultures whose norms and values violate those of the dominant groups in society. Prerequisite: Soc. 2000. (Y)

4111. Methods of Sociological Research, I (4)

The nature and application of the scientific method in social research. The use of different techniques for specific problems; descriptive and analytical procedures employing the statistical, the historical, and comparative methods. Use of such research instruments as the interview, the questionnaire and observation. Analysis of data and reporting of results. Individual projects. Two hours lect., 4 hrs. lab. Prerequisites: Soc. 2000, Stat. 2120 or 1000 and 3010. (A)

4112. Methods of Sociological Research, II (4)

The design of sociological studies. Advanced problems of sampling and measurement. Individual projects and instruction. Two hrs. lect., 4 hrs. lab. Prerequisite: Soc. 4111. (A)

4121. Field Investigation I (3)

Placement of students with suitable community agencies for supervised instruction. Prerequisites: senior standing; Soc. 2000, 3700; consent of instructor. To be taken concurrently with Soc. 4711. (F, W)

4122. Field Investigation II (3)

A continuation of Field Investigation I. Placement of students with suitable community agencies at a more advanced level for the purpose of supervised instruction. Prerequisite: Soc. 4121. To be taken concurrently with Soc. 4712. (W, Sp)

4123. Field Investigation III (3)

A continuation of Field Investigation II. Placement of students with suitable community agencies at a more advanced level for the purpose of supervised instruction. Prerequisite: Soc. 4122. To be taken concurrently with Soc. 4713. (Sp, Su)

4320. Sociology of Knowledge (4)

Ideas, ideologies and nature of social thought which are functionally interdependent with social processes and structure. Prerequisite: Soc. 2000. (Y)

4420. Sociology of Religion (4)

Functions of religion in society; the interrelations between religion and social structure; analysis of religious authority and leadership; the nature of religious movements. Prerequisite: Soc. 2000. (Y)

4430. Sociology of Complex Organization (4)

Sociological analysis of principal forms of complex social organizations; bureaucracy; ritual, symbolism; enclosure processes; associated pressure group phenomena; incidences of conflict; mass movements and population growth on complex organization. Prerequisite: Soc. 2000. (Y)

4440. Industrial Sociology (4)

Historical and descriptive analysis of various principal forms of business organizations, trade associations and labor organizations as social organizations; influences of industrialization on family and other social organizations. Prerequisite: Soc. 2000. (Y)

4450. Urban Sociology (4)

Development of the urban and metropolitan areas as a distinctive pattern of population distribution; particular attention to changing relationships within and among metropolitan areas. Individually supervised student projects. Prerequisite: Soc. 2000. (A)

4455. Social Organization of the Black Community (4)

Sociological analysis of the structure and dynamics of social organizations and institutions within the sub-cultural context of the Black community. Examination of the distinctive forms of social organization developed by the Black people to meet the needs of its population. Prerequisite: Soc. 2000. (Y)

4460. Sociology of Occupations and Professions (4)

A comparative study of certain occupational and professional groups with emphasis on social significance of occupational choice and sociological factors related to choice. Prerequisite: Soc. 2000. (Y)

4470. Sociology of Education (4)

Analysis of the institutional character of education; the relationship of education as a social institution to aspects of political, economic and family organization; social relations within the school, school culture and roles. Prerequisite: Soc. 2000. (Y)

4480. Conflict and Conflict Resolution (4)

Examination of conduct, causes, and consequences of conflicts between individuals, groups, organizations, communities, societies. Exploration of conflict resolution techniques which utilize violence, nonviolence, mediation, peacekeeping. Prerequisite: Soc. 2000. (Y)

4500. Seminar in Small Groups (4)

Seminar in analysis of the emergence and formation of small human groups. Their basic properties, structures and functions, norm formation, inter-group relations, goal formation and leadership. Student participation in laboratory demonstrations of classic experimental studies. Prerequisites: Soc. 2000, 3500. (Y)

4510. Dynamics of Collective Behavior (4)

Systematic analysis of the phenomena of crowds, masses and public, social movements and the processes by which nascent institutions are formed within old institutions and under conditions of institutional demoralization. Prerequisite: Soc. 2000. (Y)

4515. Social Movements (4)

The emergence and development of reform, revolutionary and expressive movements, including cults, radical political parties, religious and messianic sects and minority groups. Consideration of organizational structure tactics, ideology and social psychological characteristics of participants. Prerequisite: Soc. 2000. (Y)

4520. Sociology of Identity (4)

Synthesis of various theoretical trends about relations of social structure and accompanying processes of identity expression with respect to contributions of Durkheim, Mannheim, Goffman, Marx and others. Analysis of interrelationships between identity and cultural and institutional models of man. Dynamics of social systems that precipitate problems of identity expression and its relationship to rise and fall of social movements. Prerequisite: Soc. 2000. (Y)

4525. Asian Identity in America (4)

Investigation of socio-psychological aspects of identity crisis of Asians in America. Emphasis on various degrees of awareness and perceptions. Prerequisites: Soc. 2100, or consent of instructor. (Y)

4530. Introduction to Political Sociology (4)

Analysis of political organization as an important environmental factor in the individual's life; human aspects of bureaucracy; responses to authority and control in typical systems; participation and exclusion from communication and decision-making; morale and efficiency; research methods. Prerequisite: Soc. 2000. (Y)

4711. Practice Theory I (2)

A seminar utilizing theoretical material in the social welfare, sociological, and social science literature in order to compare it with the accompanying field experience. Prerequisite: senior standing; Soc. 2000, 3700; consent of instructor. To be taken concurrently with Soc. 4121. (F, W)

4712. Practice Theory II (2)

A continuation of seminar in Practice Theory I. Prerequisites: Soc. 4121, 4711; consent of instructor. To be taken concurrently with Soc. 4122. (W, Sp)

4713. Practice Theory III (2)

A continuation of seminar in Practice Theory II. Prerequisites: Soc. 4122, 4712; consent of instructor. To be taken concurrently with Soc. 4123. (Sp, Su)

4716. Community Organization and Group Dynamics (4)

Community organization and group dynamics methods for work in ghetto and inner city area social welfare problems using preprofessional personnel. Prerequisite: Soc. 2000 and junior standing. (Y)

4720. Medical Sociology (4)

The socio-cultural and interactional components in the etiology and treatment of illness (physiological, psychosomatic and "mental"), medical and paramedical professions. Prerequisites: Soc. 2000. (Y)

4740. Basic Criminology (4)

Exploration of the meaning of crime, its origins and its functions; current practices in respect to the identification and treatment of criminal behavior. Prerequisite: Soc. 2000. (Y)

4750. Child Welfare (4)

Trends in public policy regarding programs for the protection and care of the child in American society. Sociological analysis of the conditions pertinent to the socialization of the child; the implications of these conditions for the development of such programs as foster care, adoptions, institutions, school social work and corrections. Prerequisite: Soc. 2000. (Y)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****GRADUATE COURSES**

(For complete descriptions of the following courses, see the Graduate Catalog.)

Soc. 6111. Advanced Sociological Research Methods, I (4)**Soc. 6112. Advanced Sociological Research Methods, II (4)****Soc. 6311. Seminar in Sociological Theory, I (4)****Soc. 6312. Seminar in Sociological Theory, II (4)****Soc. 6400. Seminar in Population Studies and Ecology (4)****Soc. 6500. Seminar in Social Psychology (4)****Soc. 6600. Seminar in Social Organization (4)****Soc. 6700. Seminar in Social Policy (4)****Soc. 6745. Seminar in Deviant Behavior (4)****Soc. 6900. Independent Study (1-4)****Soc. 6910. Thesis (1-5)****Soc. 6920-6999. Directed Group Study (1-4)**

Spanish

See Foreign Languages, page 302.

Spanish-American Literature

See Foreign Languages, page 305.

Speech

Offered in the Department of Speech-Drama

RHETORIC AND PUBLIC ADDRESS**1000. Rhetoric and Public Address (4)**

Theory, practice, and evaluation of oral communication. Emphasis on ethical responsibility, careful selection and development of ideas, and logical organization of expository/argumentative/persuasive discourse. (A)

1004. Interpersonal Communication (4)

Study of principles of oral communication in different interpersonal contexts; dyads, interviews, and exercises in listening and speaking intended to develop competence in oral communication. (A)

2411. Argumentation and Debate (5)

A course stressing those elements of logic and rhetoric making up responsible argumentative discourse. Practice in presentation and evaluation of argumentative speeches and forensic debates. Prerequisite: Speech 1000, or consent of instructor. (A)

3412. Business and Professional Speech (4)

Designed to meet the needs of business management. Units in explanations, sales and policy speaking, small group dynamics and conference work. Prerequisite: Speech 1000, or consent of instructor. (Sp)

3510. Public and Group Discussion (5)

Principles and methods of public and group discussion in problem solving and learning situations. Development of individual skills in discussion preparation, participation, and leadership through practical application. Study of small group dynamics. Prerequisite: Speech 1000, or consent of instructor. (F)

3515. Persuasion (4)

The theory and practice of the principles of social psychology as applied to persuasion. Choice, arrangement and adaptation of materials implementing this theory. Prerequisite: Speech 1000, or consent of instructor. (W)

4183. Speech Workshop—Forensics (1-3)

An activity course for students participating in the co-curricular presentations of the department. Includes competition in debate and various speech events plus appearance before community groups. Admission by consent of instructor. Field trips required. Six units maximum for speech credit. (F, W, Sp)

4201. * History of Rhetorical Theory and Practice I (4)

Greek and Roman rhetoric and oratory: the teachings of significant scholars in rhetoric from Corax to Quintilian, and the outstanding speeches and speakers from Pericles to Cicero. (F)

4202. * History of Rhetorical Theory and Practice II (4)

British rhetoric and oratory: the teachings of significant scholars in rhetoric, especially Blair, Campbell, and Whately, and the outstanding speeches and speakers from Chatham to Churchill. (W)

* Graduate credit by approval.

4203. * History of Rhetorical Theory and Practice III (4)

American rhetoric and oratory: the teachings of significant scholars in rhetoric, and the outstanding speeches and speaking from Jonathan Edwards to Woodrow Wilson. (Sp)

4210. * Modern American Public Address (4)

Public addresses of prominent spokesmen in politics, religion, and social movements from World War I to the early 1960s. Emphasis on speakers dealing with significant issues. (Y)

4350. Advanced Public Speaking (4)

Principles of public speaking and the development and presentation of talks designed to achieve specific purposes. May fulfill teaching credential speech requirement. Prerequisite: Speech 1000, or consent of instructor. (Sp)

4450. * Contemporary Public Address (4)

Investigations of the use of speechmaking in public affairs today. Students engage in analysis of contemporary speaking by representative figures in politics, education, religion, law and business. (Sp)

4500. * Rhetorical Criticism (5)

Study of ancient and modern theories of rhetorical criticism. Extensive practice in applying principles of criticism to public address, with emphasis on development of competence in analysis and refinement of judgment. Prerequisite: One of the following courses—Speech 3515, 4201, 4202, 4203, or 4450. (W)

4600. * Modern Rhetorical Theory (4)

An intensive study of leading theories of rhetoric from the eighteenth century to the present, seeking to discover their substance, their relationships to one another, and their usefulness. Prerequisites: any one of Speech 4201, 4202, or 4203, or consent of the instructor. (Y)

GENERAL**1005. Parliamentary Procedure (3)**

A study stressing those principles of procedure which enable members and officers to function in a democratic society; constitutions, by-laws, and rules of order. (Y)

1007. Fundamentals of Speech (3)

A general survey of the field of speech and drama, with introductory units in voice and diction, theatre, interpretation, and public speaking. Laboratory required for students with special speech problems. (A)

1920-1999. Directed Group Study (1-4)**2210. Mass Media of Communication (4)**

Importance of periodicals and newspapers, motion pictures, radio, and television. Comparative analysis and evaluation. Development of criteria for responsible judgments. (Sp)

2215. Introduction to Radio and Television (4)

A course designed to improve understanding of these media; studying programming, elements of production, business management, aesthetics, history. (F)

2310. Interpretative Reading (4)

(See Drama 2310 for course description.)

* Graduate credit by approval.

2485. Voice and Speech Improvement (4)

A study of voice and articulation designed to improve the normal speaking voice through lecture, discussion and drill. (Sp)

4310. Advanced Interpretative Reading (4)

(See *Drama* 4310 for course description.)

4355. Teaching of Speech and Drama (4)

To develop skills in both curricular and extra-curricular uses and activities in: choral reading, creative and formal dramatics, interpretative reading, public speaking, discussion and debate, and informal speech activities as tools for the secondary school speech teacher. Audio-visual techniques. Prerequisite: consent of instructor. (F, Sp)

4610. Speech/Drama in the Elementary Classroom (3)

Techniques and materials in oral language arts. Units in choral speaking, reporting, interpretative reading, puppetry, creative dramatics, formal drama, story telling, and recording. Designed for elementary teachers. (W)

4725. Contemporary Issues in Speech (4)

A study of problems and issues facing scholars and teachers in speech/rhetoric and public address today. (Y)

4800. General Semantics (4)

A multi-disciplinary study of language as an important aspect of human behavior; impact of modes of language upon modes of thought. (F, W, Sp)

4810. Communication Theory (4)

An introduction to models of oral communication and persuasion, and an examination of studies of oral discourse which those models illustrate. (Y)

4860. Symposium in Speech (4)

A summary and synthesis, terminal undergraduate course intended to provide the departmental major with an opportunity to report on an individual research study or project in his field of special interest. Prerequisite: senior standing. (Y)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****GRADUATE COURSES**

(For Complete Descriptions, see the *Graduate Catalog*)

Speech 6000. Introduction to Graduate Study in Speech and Drama (4)**Speech 6300. Seminar in Broadcasting (4)****Speech 6400. Seminar in Rhetorical Studies (4)****Speech 6455. Seminar in Speech and Drama Education (4)****Speech 6500. Seminar in American Public Address (4)****Speech 6510. Seminar in Group Discussion (4)****Speech 6700. Ethics of Communication (4)**

* Graduate credit by approval.

Speech 6900. Independent Study (1-4)**Speech 6910. Thesis (1-9)****Speech 6920-6999. Directed Group Study (1-4)****SPEECH PATHOLOGY COURSES****3852. Introduction to Speech and Language Disorders (4)**

Emphasis on acquisition of speech and language by children and on deviations from normal speech patterns. Prerequisite: Speech 1007 or equivalent must be taken previously or concurrently. (Y)

3853. Process of Oral Communication (4)

Origin and development of speech in the human being. Relation of speech to thought, emotion and personality. Prerequisite: Speech 1007 or equivalent must be taken previously or concurrently. (Y)

3854. Introduction to Speech Science (4)

Study of the physiology and anatomy of the speech mechanism; emphasis on both normal and abnormal speech. Prerequisite: Speech 1007 or equivalent must be taken previously or concurrently. (W)

3855. Phonetics (3)

Study of the basic sounds characteristic of spoken language. Development of the ability to transcribe phonetically. Prerequisite: Speech 1007 or equivalent must be taken previously or concurrently. (F, W)

3857. Organic Disorders of Speech (4)

Examination of various speech pathologies resulting from organic defects and their rehabilitation. Prerequisites: Speech 3852 and Speech 3854, or consent of instructor. (Sp)

3859. Introduction to Audiology (4)

Anatomy and physiology of the human ear. Nature of auditory stimuli. Survey of clinical audiology including an introduction to hearing disorders and measurement. Prerequisite: Speech 1007 or equivalent must be taken previously or concurrently. (F)

4853. Vocal Rehabilitation (4)

Theories and methods of correcting vocal pathologies found in adults and children. Prerequisites: Speech 3852 and Speech 3854, or consent of instructor. (F)

4854. Diagnosis of Speech and Language Disorders (4)

Theory and practice in the assessment of various pathologies of speech and language. Prerequisites: Speech 3852, 3855, 3857, or consent of instructor. Two hrs. lect., 6 hrs. lab. (W)

4855. Aural Rehabilitation (4)

Analysis and evaluation of techniques employed with the acoustically handicapped in speech reading and auditory training. Prerequisite: Sp. 3859, or consent of instructor. (F)

4856. Clinical Practicum in Speech Pathology and Audiology (1-5)

Practice in Speech and Hearing Laboratory Clinic. May be repeated for a maximum of 5 units. Prerequisite: Speech 3852, or consent of instructor. Three hrs. lab. per week for each unit of credit. (A)

4858. Speech Handicapped School Children (4)

Survey of various disorders of speech, language and hearing found in the schools. Designed for non-majors, especially teachers. (Y)

4859. Seminar in Speech Pathology and Audiology (4)

Investigation of individual research projects in Speech Pathology and Audiology. Reports to seminar of those investigations. Prerequisite: senior standing in Speech Pathology and Audiology, or consent of instructor. (Sp)

GRADUATE COURSES

(For detailed descriptions of the following courses, see the Graduate Catalog.)

Speech 6110. Seminar in Speech Pathology—Language Disorders of Children (4)**Speech 6120. Seminar in Speech Pathology—Adult Aphasia (4)****Speech 6210. Seminar in Audiology (4)****Statistics****Offered in the Department of Statistics****Information about Elementary Statistics Courses.**

Students will NOT receive credit toward graduation for more than one of 1000, 2010, 2120 or for more than one of 3000, 3010. Since 1000 is prerequisite for 3010 and 3000 it is the appropriate first course in many—but by no means all—cases. Certain students who will take only one statistics course (for major or general education requirements) may take 1100 instead. Students with credit for Math. 1802, Math. 1304, or equivalent of either must not take Stat. 1000 without Statistics Department written approval; preferably select 2010, 2400, 3031, 3401, 3500 or 3502 instead. For students who have taken Math. 1130 or equivalent, 2400 may be a better general education course than 1000 or 1100.

Biology majors should take 3031 as their first statistics course. Sociology majors who elect to take only one statistics course should take 2120, but the sequence 1000/3010 is preferable to 2120/3010 for those taking two or more statistics courses. Business and Economics majors require 2010 and so must not take 1000 (unless substitution of 1000/3010 for 2010 has been approved).

Some departments permit students with appropriate background or interests to substitute a more advanced course or a pair of courses for a course specified in the Catalog as required. Get advance written permission from your department before making any of the following substitutions: 1000 for 1100; 2010 or 3500 for 1000; 1000/3010 for 2010; 3401 for 2400; 3502 for 2010 or for 3031; 3502 for 1000/3010, for 1000/3000, or for 3500; 3503 for 4000.

1000.* Elements of Probability and Statistics (5)

Descriptive statistics (measures of central tendency, dispersion, correlation), elementary discrete probability distributions. Introduction to tests of statistical hypotheses. Prerequisite: demonstrate proficiency equivalent to 1½ years of high school algebra. (A)

1100.* Elements of Descriptive and Inferential Statistics (4)

An introduction to descriptive statistics and basic ideas of inferential statistics. Uses and misuses of statistics. Not an acceptable prerequisite for other statistics courses. Prerequisite: ability to do arithmetic with fractions. (F, W, Sp, Tent. Su)

1920-1999. Directed Group Study (1-4)**2010.* Elements of Statistics for Business and Economics (5)**

Introduction to modern probability, descriptive statistics, estimation and hypotheses testing linear regression. Applications to business and economics. Prerequisite: Math. 1305 or Math. 1803 (either may be taken concurrently). (A)

* Read *Information about Elementary Statistics Courses* at the beginning of the Statistics course listings.

2120.* Elements of Statistics in Sociology (5)

Measures of central tendency, variability, association; normal, t, and chi-square probability distributions; inferential statistical methods in sociology. Prerequisite: Math. 1100 or demonstrated proficiency in 1½ years of high school algebra. [Not open for credit to students having credit for Stat. 1000.] (F, W, Sp)

2400.* Basic Concepts of Probability with Applications (4)

Discrete sample spaces and probability functions, random variables, and their distributions. Applications of probability to statistics, games of chance, and to selected problems in sciences such as genetics. For the purpose of satisfying General Education requirements this course is recommended in place of Stat. 1000 for students meeting the prerequisites. Prerequisites: Three years of high school mathematics or Math. 1130 or equivalent. (F, Tent. Sp)

3000.* Statistical Analysis I (4)

Sampling, distributions, tests of significance and correlational methods. Prerequisite: Stat. 1000 or equivalent. [Not open for credit to students having credit for Stat. 3010.] (Not offered 1974-75. Substitute Stat. 3010.)

3010.* Statistical Methods in the Social Sciences (4)

Standard scores, t scores, ranked data, linear regression, correlation, measures of association, the normal distribution and its uses, paired comparisons, the uses of chi-square, introduction to design of experiments. Prerequisite: Stat. 1000 or Stat. 2120, or equivalent. [Not open for credit to students having credit for Stat. 3000.] (A)

3031.* Statistical Methods in Biology (4)

Basic probability and statistical concepts. Measurement of variability of data. Introduction to the analysis of variance and covariance, correlation and regression with applications to biology. Prerequisite: Math. 1130. (F, W, Sp, Tent. Su)

3401. Introduction to Probability Theory (4)

The modern theory of probability with applications to science and engineering. Topics include the notion of sample space, random variables, expectation, joint distributions, combinatorial analysis and special distributions such as the binomial, the Poisson, the normal, etc. Cross-listed with Math. 3401. Prerequisite: Math 1305 (may be taken concurrently) or consent of instructor. (F, Tent. W, Sp)

3415. Introduction to Decision Theory (4)

Probability and conditional probability. Expectation and its applications to decision making. Decision trees. Bayesian models and methods, comparison with classical methods. Prerequisite: Stat. 1000, Stat. 2010, or Stat. 2400. (Y)

3500. Statistical Methods in Science (4)

Probability background for statistical methods. Applications of binomial, hypergeometric, Poisson, normal and other distributions. Estimation and hypothesis testing, including Student's t, and the chi-square methods. Prerequisite: Math. 1304 (may be taken concurrently). (Not offered 1974-75. Substitute Stat. 3502.)

3502. Statistical Inference I (4)

Probability spaces, random variables and their distributions, estimation theory and hypothesis testing, with special emphasis on treatment of actual data. Cross-listed with Math. 3502. Prerequisite: Math. 1305 or consent of instructor. (F)

* Read *Information about Elementary Statistics Courses* at the beginning of the Statistics course listings.

3503. Statistical Inference II (4)

Introduction of general linear hypothesis with emphasis on applications to design and analysis of experiments. Cross-listed with Math. 3503. Prerequisite: Stat. 3502. (W)

4000. Statistical Analysis II (4)

Introduction to analysis of variance. Prerequisite: Stat. 3000 or equivalent. (Sp)

4410. Introduction to Stochastic Processes (4)

The theory and application of stochastic models to empirical phenomena, with emphasis on stationary and counting processes and on Poisson, Markov and Gaussian processes. Cross-listed with Math. 4410. Prerequisite: Stat. 3401. (Y)

4501. Introduction to Mathematical Statistics I (4)

Theories of estimation and hypothesis testing, including derivations of relevant distributions. Treatment of multivariate normal distribution and general linear hypothesis using matrix and vector notation. Cross-listed with Math. 4501. Prerequisite: Math. 1305 or consent of instructor. (W)

4502. Introduction to Mathematical Statistics II (4)

Regression models, analysis of variance and covariance models, other topics from design of experiments treated as examples of general linear hypothesis. Cross-listed with Math. 4502. Prerequisite: Stat. 4501. (Sp)

4601. Applied Statistics (4)

Computational methods in statistics. Use of calculators and computers in statistical analysis including regression, analysis of variance. Prerequisite: Stat. 3502 (may be taken concurrently) or consent of instructor. (Sp)

4602. Experimental Design (4)

Methodology of design and analysis of experiments in the physical, biological, and social sciences. Prerequisite: Stat. 4601. (F)

4610. Nonparametric Statistical Methods for the Social Sciences (4)

Nonparametric methods appropriate to data found in social science research; e.g., sign test, Wilcoxon test, rank correlation test, tests for independence and randomness; approximate distributions under the null hypotheses; treatment of ties; some estimation procedures. (Previously Stat. 4010.) Prerequisite: Stat. 3010 or equivalent. (F, Tent. W, Tent. Sp)

4860-99. Undergraduate Seminar (2-4 each)

Seminar in probability and/or statistics on topics extending beyond regular courses. Variable content, units, and prerequisites, specified below or at time of offering. A total of up to 12 units of different topics may be taken for credit.

4861. Design of Sample Surveys (4)—Simple and random sampling, cluster and systematic sampling. Illustrations using actual data. Prerequisites: Stat. 1000 or equivalent and consent of instructor. (Y)

4900. Independent Study (1-4)**4920-4999. Directed Group Study (1-4)****GRADUATE COURSES**

(For complete descriptions of the following courses, see the *Graduate Catalog*.)

Stat. 6401, 6402. Advanced Probability I, II (4 each)**Stat. 6410. Queueing Theory (4)****Stat. 6430. Stochastic Processes (4)****Stat. 6501, 6502. Mathematical Statistics I, II (4 each)****Stat. 6510. Analysis of Variance (4)****Stat. 6860-69. Selected Topics in Graduate Probability and Statistics (2-4 each)****Stat. 6870-79. Seminar in Probability and Statistics (2-4 each)****Stat. 6900. Independent Study (1-4)****Stat. 6920-6999. Directed Group Study (1-4)****Swahili**

See Foreign Languages, p. 306

Teacher Education

(Offered in the Department of Teacher Education)

2030. American Education in Perspective (4)

The promise and performance of American education—where it came from, where it seems to be going. Non-technical exposition for general education. (Y)

3140. The Urban Elementary School (3)

Impact of urbanization on elementary schools; research on changing functions and roles; effects of family, school, pupil-teacher relationships—especially in emerging inner-city programs. Concurrent registration in TEd. 3141 required. Three hours, lect./disc. (Y)

3141. Practicum in Urban Schools (1)

Field study in urban elementary schools. Concurrent registration in TEd. 3140 required. Three hrs. field work. (Y)

4100. Foundations of Education I: Organization for Teaching (4)

Intensive study of curricular organization and instructional programs of modern schools. Emphasis upon social objectives for schools and psychological bases for instructional organization. Student screening and counseling. Prerequisite: admission to credential program. Two hours lect./disc., 4 hrs. act. Field trips required. (Y)

4110. Foundations of Education II: Teaching and Learning (3)

Child development, socialization, learning; methods for identifying individual differences in learning; adapting school programs to meet differing needs of children. Student screening and counseling. Prerequisite: TEd. 4100. Concurrent enrollment in TEd. 4180 required. Two hrs. lect./disc., 2 hrs. act. (Y)

4180. Practicum in Teaching (1)

Field practice in studying child behavior in school settings. Recording behavior, identifying behavior patterns, measuring changes in behavior patterns. Concurrent enrollment in TEd. 4110 required. Three hrs. field work. (Y)

4320. Seminar on Teaching-Learning Interactions (3)

Discussion and analysis of teaching-learning interactions, adapting instruction to individual learning styles, precise teaching, problems of managing classroom activities. Concurrent enrollment in TEd. 4380 required. Three hrs. seminar. (Y)

4380. Field Work in Elementary Schools I (3)

Supervised field study of classroom teaching-learning interactions. Emphasis upon precise teaching of behavior and communication skills. Classroom management and planning for instruction. Prerequisite: TEd. 4110. Concurrent enrollment in TEd. 4320 required. Nine hrs. field work. (Y)

4400. The Chicano and the Schools (4)

The Chicano's experience in American education from preschool through high school with emphasis on the solution of the problems besetting his emotional, intellectual and social growth. Prerequisite: Senior or Graduate standing. (Y)

5000. Philosophy of Education (4)

Foundational course in philosophy of education. An examination of philosophical issues in contemporary education, aimed at encouraging individual development of a coherent, consistent philosophy by which educational practice may be guided. Meets credential requirements in sociological and historical foundations of education. Four hrs. lect./disc. (Y)

5001. History of Education (4)

A survey of major developments in western education from the Greeks to the present day; major emphasis is placed upon the implications for modern practice. Prerequisite: two courses from Ancient, Medieval, or European History; American History; or permission of the instructor. Meets credential requirements in sociological and historical foundations of education. Four hrs. lect./disc. (Y)

5010. Contemporary American Education (4)

A critical analysis of relationships between major social and historical developments and American education, emphasizing goals, purposes, scope and functioning of elementary and secondary education. Meets credential requirements in sociological or historical foundations of education. Four hrs. lect./disc. (Y)

5021. Child Growth and Development (3)

Growth and development of the child: prenatal through childhood with special attention to the intellectual, social, and personality development in childhood. Influence of the home and school environment. Concurrent enrollment in public school laboratory. Three hrs. lect./disc. (Y)

5022. Psychological Foundations of Education (Secondary) (4)

Research and theory in the teaching-learning process specifically applied to adolescent youth; individual differences and their development; learning theory applied to the teaching of specific school subjects; evaluation of classroom learning; problems of adolescence. Screening course for credential candidates. Four hrs. lect./disc. (A)

5025. Psychological Foundations of Education (Elementary) (3)

Research and theory in the teaching-learning process; individual differences and their development; learning theory applied to the teaching of specific school subjects; evaluation of classroom learning; mental hygiene. Screening course for credential candidates. Prerequisite: Basic Psychology and Child Growth and Development or Adolescent Psychology. (Concurrent enrollment in a public school laboratory or student teaching.) Three hrs. lect./disc. (A)

5035. Sociological Foundations of Education (Secondary) (4)

Cultural, historical development of the public schools in United States; the changing social, political, and economic forces shaping the changing public schools; role of the teacher in social change; various philosophies of education influencing the schools. Screening course for credential candidates. Four hrs. lect./disc. (F, Sp, Su)

5038. Multiculture Education (4)

Implications for schools of community ethnic differences and demands; analyses of group culture patterns and value orientations; research findings in intergroup education; newer teaching approaches, materials, learning experiences and curriculum developments; program-planning for classrooms, schools and districts. Prerequisite: TEd. 5030 or 5035. Four hrs. lect./disc. (Y)

5040. Adolescent Development and Learning (3)

Developmental characteristics of adolescents: influences affecting adolescent behavior; analysis of current forces upon junior and senior high school students; classroom learning problems. A screening course for credential candidates. Prerequisite: basic educational psychology course. Three hrs. lect./disc. (Y)

5060. Human Relations in Teaching (4)

Teaching procedures and content emphasizing human relations in school setting. Analysis of effects of roles, statuses, and purposes upon the individual. Understanding of group processes. Prerequisite: consent of instructor. Four hrs. lect./disc. (Y)

5069. Home and School (4)

Dynamics of family, pupil-teacher, teacher-parent, and pupil-pupil relationships, including methods and materials of family counseling, working with parent groups, parent conferences, home visits and problems of home and school. Prerequisite: teaching credential or consent of instructor. Four hrs. lect./disc. (Y)

5100. Evaluation in Education (3)

Principles, techniques, and current practices of evaluation in schools. Relationship to curriculum; current practices in tests and measurements. Prerequisite: basic educational psychology course and TEd. 5800 series or equivalent. Two hrs. lect./disc., 2 hrs. act. (A)

5210. Seminar in Language Arts Teaching (3)

Considers ways to improve the teaching of language, literature, and composition in the elementary classroom. Includes application of principles of linguistics and inductive teaching techniques. Prerequisites: teaching experience, TEd. 5800 series or equivalent, or permission of instructor. Three hrs. seminar. (Y)

5220. Seminar in Elementary School Social Science (3)

Analysis of current developments in elementary school social science programs emphasizing intensive investigation of program goals, teaching strategies including inquiry processes, instructional materials and evaluation procedures. Study of scientific research in the field. Prerequisite: teaching experience, TEd. 5821 or equivalent. Three hrs. seminar. (Y)

5240. Children's Literature in Elementary Education (3)

A survey of children's literature including classics, picture books, myths, folktales, legends, biography, poetry, historical fiction and novels. Emphasis is placed on criteria for selection of good literature and teaching techniques. Prerequisite: consent of instructor. (F, W, Sp)

5241. Literature for Adolescents (3)

Examination of the values to be found in folktales, classical myths and legends, as well as the body of contemporary writing, especially created to satisfy interests and needs of adolescents. (W)

5242. Teaching Multi-Ethnic Literature to Children (4)

Procedures for teaching multi-ethnic literature to children. Focuses on Black, California-Mexican, and Indian literature. Includes use of literature on human relations. Compositions and outside projects required. Prerequisite: consent of instructor. Four hrs. lect./disc. (Sp)

5250. Teaching Resources in the School (2)

Identification, selection, evaluation, and application of materials, resources, and equipment in the teaching-learning process. Emerging trends in education and developments in instructional technology. Equipment operation in AV laboratory required. Prerequisites: admission into Standard Teaching Credential program; concurrent enrollment in public school laboratory course or student teaching; or consent of instructor. One hr. lect./disc., 2 hrs. act. (Y)

5251. Audiovisual Methods and Materials (3)

Selection, utilization and evaluation of audiovisual methods and materials in the teaching-learning process; operation of audiovisual equipment. Satisfies the Audiovisual requirement for standard teaching credentials. Prerequisite: teaching experience or permission of instructor. One hr. lect./disc., 4 hrs. act. (Y)

5260. Classroom Problems of Beginning Teachers (3)

General methods of teaching with emphasis on the problems teachers encounter during first-year teaching. Instruction in audiovisual methods and materials, classroom organization and management, grouping, lesson planning, reporting to parents, and a preview of professional issues. A screening course for credential candidates. Prerequisite: admission to the Secondary Teacher Education Program. Concurrent enrollment in TEd. 5264 is required. Two hrs. seminar, 2 hrs. act. (Y)

5261. Public School Laboratory I (2)

Three hours supervised participation in public schools and/or youth agencies for each unit of credit. Concurrent registration as required with specific courses. (Y)

5262. Public School Laboratory II (3)

Three hours of supervised experiences in public schools and in simulation training experiences for each unit of credit. Concurrent registration in TEd. 5831 or 5811. Nine hrs. lab. and field work. (Y)

5263. Public School Laboratory III (3)

Three hours supervised participation in public school and/or youth agencies for each unit of credit. Concurrent registration as required with specific courses. (Y)

5264. Observation, Seminar and Lab (Secondary) (3)

Supervised participation in public schools, plus seminars to discuss and analyze observations and teaching experience. Concurrent enrollment in TEd. 5260 is required. (Y)

5270. Secondary School Curriculum (4)

Analysis of secondary school curriculum: practices, trends, and issues; roles of the secondary teacher, student, parent, administrator, supervisor, and counselor; current practices and techniques in measurement related to curriculum improvement. A screening course for credential candidates. Prerequisite: graduate standing and acceptance into the Secondary Credential program. Four hrs. lect./disc. (Y)

5275. Teaching and Curriculum Planning in Middle Schools (3)

Analysis of middle school programs, grades 5-8; characteristics of students and influences affecting their behavior; roles of teacher in curriculum selection, development, and implementation. Prerequisite: Teaching credential or consent of instructor. (Y)

5300 SERIES: PROFESSIONAL EDUCATION PROGRAM ELEMENTS

The 5300 courses are elements in the professional preparation program for Multiple Subject and Single Subject Teaching Credentials. Admission into the professional preparation programs of the Department of Teacher Education is required for each course in the series. The elements are taken in a set sequence. The sequence may differ in different sections of the program. Each element is based upon the achievement of a specified set of professional teaching competencies. The elements include regular coursework or fieldwork, individual or group

study, and the demonstration of the competencies. Student counseling and screening is involved in each element. See the Department of Teacher Education for further information.

5301. Professional Education I: Development and Content (4)

Emphasis on principles of human development and learning applied to selection and teaching of curricular content. Two hrs. lect., disc.; 4 hrs. act. (A)

5302. Professional Education II: Classroom Practicum (2)

Emphasis on practical application of classroom strategies. Required of undergraduate program candidates. Six hrs. field work. (Sp, Su)

5303. Professional Education III: Classroom Problems (2)

Emphasis on classroom problems and organization. Required of post-baccalaureate program candidates. One hr. lect., disc.; 2 hrs. act. (A)

5304. Professional Education: Intern Teaching Laboratory (2)

Emphasis on preparing and pre-testing materials for teaching assignment with students in a classroom setting. Concurrent registration in TEd. 5302 required. Six hrs. supervised field-work. (Su)

5305. Professional Education IV: Social/Cultural Influences (2)

Emphasis on social influences on and cultural difference affecting teaching and learning. One hr. lect., disc.; 2 hrs. act. (A)

5310. Professional Education V: Individual Differences/Integration (3)

Emphasis on individual differences and on integration of content in learning activities. Three hrs. lect., disc. (F, W, Sp)

5315. Professional Education VI: Professional Responsibilities (2)

Emphasis on the professional problems, rights, and responsibilities of teachers including self-assessment and self-direction. Two hrs. lect., disc. (F, W, Sp)

5320. Professional Education in Reading A: Theory and Content (2)

Development of reading and communication skills. Emphasis on theory and content mastery. One hr. lect., disc.; 2 hrs. act. (A)

5321. Professional Education in Reading B: Basic Programs (2)

Development of reading and communication skills. Emphasis on methods in the basic program. Two hrs. lect., disc. (A)

5325. Professional Education in Reading C: Classroom Practicum (2)

Development of reading and communication skills. Emphasis on practical problems in the classroom. Required of undergraduate program candidates. Six hrs. supervised field work. (Sp, Su)

5326. Professional Education in Reading D: Classroom Problems (2)

Development of reading and communication skills. Emphasis on detecting and correcting individual difficulties in the classroom setting. Required of post-baccalaureate program candidates. Two hrs. lect., disc. (A)

5330. Professional Education: Student Teaching A (4)

Emphasis on planning for and managing instruction. Twelve hrs. supervised student teaching. (F, W, Sp)

5331. Professional Education: Student Teaching B (3)

Emphasis on instruction in the basic content areas for subject specialization. Nine hrs. supervised student teaching. (F, W, Sp)

5332. Professional Education: Student Teaching C (3)

Emphasis on instruction in the basic content areas for subject specialization. Special supervision. Nine hrs. supervised student teaching. (F, W, Sp)

5335. Professional Education: Student Teaching D (6)

Emphasis on meeting individual differences. Eighteen hrs. supervised student teaching. (F, W, Sp)

5336. Professional Education: Student Teaching E (4)

Emphasis on integrating instruction. Twelve hrs. supervised student teaching. (F, W, Sp)

5340-5345. Professional Education: Intern Teaching A-F (4 each)

Half-time, paid teaching in a public school setting under supervision of a member of CSUH faculty. Partially satisfies CSUH student teaching requirement. 5340-5341 (A and B) are concurrent; 5342-5343 (C and D) are concurrent; 5344-5345 (E and F) are concurrent. Prerequisites: Admission to Intern Variant Program and completion of Summer Intern Program; each pair of courses is prerequisite to the following pair.

5501, 5502. Student Teaching in the Elementary Schools, Phase I, II (4, 6)

Student teaching under the supervision of a public school teacher and a member of the college faculty. Prerequisite: full candidacy in the credential program, concurrent enrollment in a seminar or elective as required by the department. The student teaching sequence will span two consecutive quarters. (F, W, Sp)

5510. Student Teaching Seminar, Elementary School, Phase I (2)

Current teaching problems and concerns. Conference periods with college supervisors. Concurrent enrollment in TEd. 5501 required. Two hrs. seminar. (F, W, Sp)

5520. Student Teaching Seminar, Elementary School, Phase II (2)

Current teaching problems and concerns; emphasis upon arts, sciences, and innovation in teaching. Conferences with supervisors. Concurrent enrollment in TEd. 5502 required. Two hrs. seminar. (F, W, Sp)

5530. Seminars in Instructional Strategies (2)

Specialized techniques in elementary teaching. Specific topics announced in advance by the department. May be repeated once for credit. Prerequisite: Completion of Student Teaching, Phase I. Two hrs. seminar. (Y)

5693. College Teaching (5)

Supervised practice teaching in a community junior college. Prerequisites: TEd. 6001 or equivalent and departmental approval; concurrent enrollment in TEd. 5694 required. (A)

5694. Seminar on College Teaching (3)

Analysis and application of teaching-learning strategies appropriate to the diverse student population and curriculum of the community colleges. Prerequisites: TEd. 6001 or equivalent and Department approval; concurrent enrollment in TEd. 5693 required. (A)

5695. Student Teaching in the Secondary School, Phase I (5)

Student teaching under the supervision of a public school teacher and a member of the CSUH faculty. May be repeated for credit. Prerequisite: TEd. 5260 and TEd. 5264, and approval of the Department. Concurrent enrollment required in TEd. 5696. (F, W)

5696. Student Teaching Seminar, Secondary School, Phase I (3 each)

Application of academic background and instructional theory to practical teaching situations. Meetings between student teachers and college supervisors held on campus or in public schools. Concurrent registration in TEd. 5695 required. May be repeated for credit. (F, W)

5697. Student Teaching in the Secondary School, Phase II (5)

Student teaching under the supervision of a public school teacher and a member of the CSUH faculty. Prerequisite: TEd. 5695, 5696. Concurrent enrollment required in 5698. May be repeated for credit. (W, Sp)

5698. Student Teaching Seminar, Secondary Schools, Phase II (3 each)

Applications of academic background and educational theory to practical teaching situations. Meetings between student teachers and college supervisors held on campus or in public schools. Concurrent registration in TEd. 5697 required. May be repeated for credit. (W, Sp)

5700. Teaching the Gifted (3)

Problems of curriculum, teaching-learning, and patterns of administration and organization of school programs for the gifted. Emphasis on methods, materials, and resources. Prerequisite: teaching experience or consent of instructor. Three hrs. lect./disc. (Y)

5701. Poverty and Learning (4)

Understanding problems of language development, acculturation, community life, and motivation of children from socially and educationally impoverished backgrounds. Introducing innovation and modification of classroom organization and management to increase adaptation to school demands. Prerequisite: consent of instructor. Four hrs. lect./disc. (Y)

5710. Administration and Organization of Early Childhood Programs (4)

Principles guiding practices in administration and supervision. Patterns of nursery school organization. Problems of staff development, personnel practices, interpretation of school programs to parents and community. Policies governing management of records, purchasing equipment and supplies, and general practices. Prerequisite: Consent of instructor. Four hrs. lect./disc. (Y)

5811. Language Arts in the Elementary School (3)

Curriculum, methods, and resource materials in speaking, listening, spelling, writing. Prerequisite: admission to preliminary candidacy in the Elementary Teaching Credential program, concurrent registration in Public School Lab II, or student teaching. Two hrs. lect./disc., 2 hrs. act. (Y)

5821. Social Science in the Elementary School (3)

Curriculum, resource materials, and methods in scope and sequence of social science in the elementary school. Prerequisite: admission to preliminary candidacy in the Elementary Teaching Credential program, concurrent registration in Public School Lab II, or student teaching. Two hrs. lect./disc., 2 hrs. act. (Y)

5830. Reading Instruction for Secondary Teachers (3)

Reading skills for secondary teachers (grades 7-12). Specific plans and materials and their application to different subject matter areas, developmental reading skills and programs, analysis of reading problems, some remediation of such difficulties, readability of materials. Three hrs. lect./disc. (Y)

5831. Reading in the Elementary School (3)

Materials and methods of reading development including phonetics; emphasis on group and individual techniques. Prerequisite: admission to preliminary candidacy in the Elementary Teaching Credential program, concurrent registration in Public School Lab II, or student teaching. Two hrs. lect./disc., 2 hrs. act. (Y)

5836. Curriculum Planning in Early Childhood Programs (4)

Selecting, developing, and managing activities for young children. Curriculum development for nursery school, kindergarten, and primary education with emphasis on language and communication skills. Prerequisite: TEd. 4380 or consent of instructor. Two hrs. lect./disc., 4 hrs. act. (Y)

5851. Classroom Instruction Clinic I (4)

Volunteer teachers working with clinical professors critically analyze instruction using micro-teaching and analysis techniques; plan improvement goals, methods, and evaluation; and develop performance contracts for self-improvement of instruction. Prerequisites: teaching position, approval of school administration, approval of Department of Teacher Education. Twelve hrs. act., disc. (Y)

5852. Classroom Instruction Clinic II (4)

Continuation of T.Ed. 5851. Development of alternative methods of achieving instructional goals and of evaluating instructional outcomes. Identification of individual differences and individualizing instruction. Prerequisites: T.Ed. 5851, approval of school administration and Department. Twelve hrs. act., disc. (Y)

5853. Classroom Instruction Clinic III (4)

Continuation of T.Ed. 5852. Diagnostic assessment techniques, specific teaching; open classroom and learning center techniques; individual professional growth projects in classroom teaching. Prerequisites: T.Ed. 5852 and approval of school administration and Department. Twelve hrs. act., disc. (Y)

5913. Curriculum in Environmental Education (3)

Explores use of the environment in school curricula. Includes demonstrations of methods of teaching out-of-doors; individual and group projects. Introduction to outdoor education programs. Two hrs. lect./disc., 2 hrs. act. (F, W, Sp)

5900. Independent Study (1-4)**5920-5999. Directed Group Study (1-4)****GRADUATE COURSES**

(For detailed descriptions of the following courses, see the *Graduate Catalog*.)

T.Ed. 6001. The Community College in Higher Education (4)**T.Ed. 6010. Seminar in Teaching and Learning Elementary Mathematics (4)****T.Ed. 6020. Research in Education (4)****T.Ed. 6021. Seminar in Diagnosis and Treatment of Learning Difficulties in Mathematics (4)****T.Ed. 6022. Practicum in Diagnosis and Treatment of Learning Difficulties in Mathematics (3)****T.Ed. 6040. Advanced Curriculum and Instruction in Secondary Mathematics (4)****T.Ed. 6225. Instruction in Beginning Reading (3)****T.Ed. 6230. Improving Reading in the Elementary School (3)****T.Ed. 6231. Analysis of Reading Problems in the Elementary School (3)****T.Ed. 6232. Correction of Reading Difficulties in Elementary Schools (3)****T.Ed. 6233. Laboratory Practice in Correction of Reading Difficulties (6)****T.Ed. 6240. Reading and Study in Secondary School (3)****T.Ed. 6241. Diagnosis of Reading Problems in Secondary Schools (3)****T.Ed. 6242. Remedial Reading Instruction in Secondary Schools (3)****T.Ed. 6243. Critical Analysis and Selection of Literature for Children and Adolescents (4)****T.Ed. 6245. Literature for the Young Child (4)****T.Ed. 6250. Seminar in Reading (3)****T.Ed. 6301. Curriculum Practicum (1)****T.Ed. 6414. Organization of Resident Environmental Education Programs (4)****T.Ed. 6415. Environmental Education Using the School Grounds and Community (4)****T.Ed. 6416. Development of Environmental Education (4)****T.Ed. 6417. Field Study in Environmental Education (4)****T.Ed. 6701. Practicum in Thinking Processes (1)****T.Ed. 6900. Independent Study (1-4)****T.Ed. 6910. Thesis (3-6)****T.Ed. 6920-6999. Directed Group Study (1-4)****Western Heritage***

Offered as an *Interdisciplinary Study*

1001. The Ancient World (5)

The culture of Greco-Roman antiquity, with special attention to the Golden Age of Athens. Two hrs. lect., 3 hrs. seminar. (F)

1002. The Culture of Medieval Europe (5)

The culture of medieval Europe, with special reference to the development of the Christian tradition. Two hrs. lect., 3 hrs. seminar. (W)

1003. The Culture of the European Renaissance (5)

The culture of European society during the fifteenth, sixteenth, and seventeenth centuries. Two hrs. lect., 3 hrs. seminar. (Sp)

1101. The Reasoned Universe (5)

The culture of European society during the era of Scientific Revolution, with special attention to the impact of the Newtonian synthesis on art, literature, philosophy, and political theory. Two hrs. lect., 3 hrs. seminar. (F)

1102. Romanticism and Revolution (5)

The culture of European society from the era of the French Revolution and the Romantic movement to Darwin and Marx. Two hrs. lect., 3 hrs. seminar. (W)

1103. The Age of Anxiety (5)

European culture during the late nineteenth and twentieth centuries, with special attention to the influence of Freud and the new physics and biology on art and thought. Two hrs. lect., 3 hrs. seminar. (Sp)

* Students who have received credit for the History of Western Culture series (HWC 1001,-2,-3) may not take Western Heritage (General Studies) 1001,-2,-3, but may take GS. 1101,-2,-3.

Women's Studies

Offered as an Interdisciplinary Study

3000. Women in the Western World (4)

The role of women, traditional and contemporary, in Western Society. Examination of attitudes concerning sexual roles and expectations. Prerequisite: Junior standing. Four hrs. lect., disc. (A)

4000. Senior Seminar in Women's Studies (4)

An interdisciplinary consideration of topics relevant to women with application to each student's major field of study. Field research encouraged. Prerequisite: Wo.St. 3000; Junior standing. Four hrs. seminar. (A)

Zoology

See Biological Science, page 256

PART IV

ADDENDA



PUBLIC SCHOOL TEACHERS IN EDUCATION PROGRAM

The public school classroom student teaching experience is made possible through the cooperation of a number of public school districts in the service area of the University. Public school teachers have made a most important professional contribution to the University's program of teacher education.

ASSISTING SCHOOL DISTRICTS

Winter 1973, Spring 1973, Summer 1973, and Fall 1973

PUBLIC SCHOOL TEACHERS WHO SUPERVISED STUDENT TEACHERS

ALAMEDA UNIFIED SCHOOL DISTRICT

Marsha Alderson, Ellen Contreras, Nancy Cox, Paul Foster, Lynn Groh, Mary Guiness, Gale Jacobs, Lucile King, Patsy Lum, Jesse Nourse, Loxie Palm, Marjorie Silva, Hope Stess, Elaine Wong.

ALBANY UNIFIED SCHOOL DISTRICT

Virginia Cullinane, Jaden Hawkins, Vi Nicholas, Gail Warrett.

AMADOR VALLEY JOINT UNION HIGH SCHOOL DISTRICT

James Campana, Virginia Dolsby, Marilyn Niepoth.

BERKELEY UNIFIED SCHOOL DISTRICT

Myra Aikens, Marian Altman, Jean Brooks, Mary Chase, Warner Freeman, Mary Ann Furuichi, Florence Hicks, Carolyn Leftridge, Bernadette MacBean, Sara Miyazaki, Akemi Nagafugi, Pamela Ormsby, Kikuka Packness, Patsy Pressley, Agnes Satterwathe, Connie Schuermann, Marsha Silverstein, Paulie Smith, Madeline Tan, Morfea Triggas, Phyllis Wayne.

CASTRO VALLEY UNIFIED SCHOOL DISTRICT

Gerald Bishop, Lou Ella Boies, Terence Cotcher, Loy Elser, Norman Guest, Frances Johnson, Jack Leudders, Ruth Levenson, Enid Lindholm, Wilbur Martin, Frank Paulson, Marjorie Remington, Eldon Rowe, Phyllis Wayne, Donna Russell, Jean Squires, June Wallace, Nandy Wallis.

EMERY UNIFIED SCHOOL DISTRICT

Cecile Caraway.

FREMONT UNIFIED SCHOOL DISTRICT

Sue Adams, Mike Agee, Polly Bixby, Cory Blodgett, Mary Boothby, Art Brandonburg, Anna Broughton, Lynn Burkholder, Dennis Burns, Arturo Cabrales, Sharon Ceresa, Diane Choelo, Arleen Cooley, Jill Cruz, Dario Cunial, George Dillon, Linda Doucette, Norman Emery, Dennis Fachino, Evelyn Finch, Leroy Gallardo, Mary Lou Gaston, Linda Gehrke, John Goetsche, Paul Gonzales, Jim Hampbill, Bea Heavin, Lyndon Hennings, Vicki Karney, Janet King, Joan King, Reid May, George McKetterick, Sue McKittrick, Pat Miller, Garo Mirigian, Georgine Moffitt, David Motroni, Ethel Murphy, Alice Needham, Joy Peterson, Gene Sambrini, Anthony Siacotas, Bill Swift, Marilyn Trochman, Elaine Urch, Cornelius Van Deusen, Charlotte Weisenborn, Noel Williams, Robert Wylder.

HAYWARD UNIFIED SCHOOL DISTRICT

Raymond Agustas, Charlene Arbogast, Mary Sue Arnold, Sue Avelar, Gary Bailey, James Bennett, Louise Berdevin, Jean Blackwell, Jackie Blake, Robert Brady, Don Cadenasso, Ellen Carter, Teddie Chang, Joan Chinowski, David Cohen, Doyle Confer, Tom Crocker, Tom

Davis, Eugene Dennett, Kathy Devereaux, Milt Devitt, Lee Donovan, Pamela Downs, JoAnne Doxy, Emilie Dunn, Lenore Dunne, Don Earlandson, Leo Epperson, Gail Franssen, Gloria Gaylord, Katherine Geanekas, June Gerlach, Geraldine Graves, Emerson Green, Carole Hartoch, Eloise Harrison, Linda Henika, Wayne Hesselbacher, Donna Hinderks, Vernona Hoenig, Sandra Hopkins, Bernice Hungerford, Karen Johnson, Barbara Jones, Bobbie Jones, Jay Jones, Phil Jordon, Jim Kolb, Gary Leonard, Bonnie Logsdon, Ed Lorber, Faye McKinney, Gwendolyn Millett, Roberta Mills, Terri Mitchell, Dorothy Moody, Estelle Morgan, Emma Morrelli, Dorcas Moyer, Walt Munz, John Nedderman, Maida Newbabauer, Charlotte O'Donnell, Joan Ornbau, Norma Peterson, Alice Petrossian, Allen Polland, Mike Potmesil, Norman Prince, Ben Riffel, Scotty Roberts, Richard Roderick, Lynn Rodgers, Marvin Rodriguez, Tina Russell, Linda Schlechte, Maurice Schmid, Jeannette Shaffer, Dennis Smith, Eva Spiles, Sue Story, Dean Sutcliffe, Judy Taylor, Ruby Tilley, Alice Thompson, Judy Tucker, Virginia Valentine, Robert Van Wagner, Delmer Walker, Mary Wallace, Trini Warren, Roald Wick, Eleanor Wiebe, George Wilson, Lynn Woolston.

EARLY CHILDHOOD CENTER

Viola Garcia, Jill Seline, Violet Street.

MOUNT DIABLO UNIFIED SCHOOL DISTRICT

Dee Adams, Martha Bond, Thomas Burns, Maryann Dehay, Louise Fabel, Lillian Gunn, Roberta Houston, Dee Page.

MURRAY ELEMENTARY SCHOOL DISTRICT

Sherrie Anderson, Marjorie Atkins, Joanne Augusta, Jane Ellen Binkley, Marietta Burgess, Sharon Carrick, Bill Charles, Jean Dahle, Gwen Damm, Gail Dawson, Gerry De LaTorre, Diane Eaton, Cynthia Heinbuch, Ann Henrioule, Ann Hurley, Cheri Joyce, Sammy Kaiser, Pat Lenz, Carol Loeb, Barbara Martinet, Ryan McKeon, John McNeil, Bess Morrison, Barbara Mortensen, Kathleen Rhodes, Lynn Ross, Frank Stager, Anna Stephens, Shirley Stone, Janet Szaikowski, Jackie Taylor, Janet Vierra, Lois Wadsen.

NEWARK UNIFIED SCHOOL DISTRICT

Sharon Betts, Florence Cook, Denise Fullerton, Jack Gaunt, Linda Larsen, Gail Leber, Gary Payton, Jean Ridgley, Jean Rodriggs, Rosalie Shelby, Don Sherve, Judy Silva, Marie Thompson, Frankie Underwood, Diana Vedesky, Earlene Yeazell.

NEW HAVEN UNIFIED SCHOOL DISTRICT

Joyce Baycroft, Billye Bradley, Philip Cooper, Les Dannis, Richard Dugan, Patricia Farren, Joan Felder, Art Friedman, David Garcia, Robert Garfat, Susan Hunt, Lois Kohks, Donna Lindsay, Donna Manha, David Martin, Genivieve Neal, William Rowland, Joe Sankene, Connie Sugden, Mary Tavor, Raquel Torres, Sarah Wiley, Patricia Zenzen.

NUEVA SCHOOL DISTRICT

Mary Ann Anderson, Delbert Alberti, Morine Greta, Barbara McElveny.

OAKLAND UNIFIED SCHOOL DISTRICT

Sylverine Brooks, Maura Casey, Winifred Connors, David Creque, Peter Cuttita, Stafford Daniels, Stewart Eldridge, David Farrow, Judy Fleming, Willie Garrett, Jay Goodman, Emma Greer, Rosalyn Haberkern, Harland Hand, Edwin Harshman, Kathleen Hurty, Harry Johnson, Dale Koistinen, Pearl LaPlaze, Barbara Madison, Jay McArthur, Rowena Minor, Michael Murphy, Miles Myers, Kozo Nishifue, Roger Nolan, Alta Noville, Clarice Oren, Delores Padovani, Fernando Patusco, Diane Pinkney, Judy Price, Thomas Radin, Karen Reynolds, Gloria Ricardo, Pat Robinson, Doreen Schumberg, Nancy Sessler, Ruth Slade, Jessa Stevenson, Enola Wade, Birdie Williams, Mike Winfers.

PALO ALTO UNIFIED SCHOOL DISTRICT

Jerry Alexander.

PIEDMONT UNIFIED SCHOOL DISTRICT

Rita McMillian, Doreen Schoenberf.

PLEASANTON ELEMENTARY SCHOOL DISTRICT

Shirley Cleveland, Marilyn Foreman, Joe Frankline, Jean Luther, Muriel Roberts, Carol Roche, Robert Wakeling, Linda West.

REDWOOD CITY ELEMENTARY SCHOOL DISTRICT

Kaye Hawley.

RICHMOND UNIFIED SCHOOL DISTRICT

Joan Akagi, Harriett Berg, Christine Cunhna, Thelma Davies, Audrey Dorton, Jean Fisk, Doris Garnett, Viola Garrett, John Goldring, Dorothy Grace, John Jones, Inge Johnson, Ina Kerr, Clara Martin, Pearl Neri, Lois Procissi, Frank Rachel, Dorothy Reeves, Terri Verticalli, Pat Williams.

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

Bobbey Cooper.

SAN LEANDRO UNIFIED SCHOOL DISTRICT

Judith Azaveda, Richard Butler, Patricia Dickerson, Bruce Duncan, Robert During, Edwin Freeman, John Garcia, Eulah Gunderson, Russell Gustafson, Ruth Hoover, Howard Houck, Mabel Jasper, Robert Larsen, Collette Matson, Joan Morrow, Stephanie Murphy, Maxine Orton, Gordon Pappas, Robert Shayler, Ben Shorum, George Smith, Kenneth Soares, Edward Spilman, Mary Stalte, Ed Stromer, Molly Warner, Fay Wessenberg.

SAN LORENZO UNIFIED SCHOOL DISTRICT

Karen Albert, Ann Allen, William Basacker, Tami Battino, Helen Bell, Joyce Blume, Beverly Braden, Elizabeth Callies, Ted Carl, Howard Carmichael, Jerry Dore, Kelsey Forrest, Elizabeth Guichard, Thomas Hart, Julia Hight, Winifred Lane, Richard Lloyd, Tom Mitchell, Elizabeth Olesen, Nancy Pierson, Joan Robinson, Marshall Stone, Barbara David Morrow, Kathleen Olesen, Nancy Pierson, Joan Robinson, Marshall Stone, Barbara Thiem, Howard Thompson, Wayne Ward, Jerrold Wergeland.

SAN MATEO UNION HIGH SCHOOL DISTRICT

Henry Use.

SAN RAMON UNIFIED SCHOOL DISTRICT

Joseph Alfano, Joanne Berger, Charlotte Allen, Arlene De Weis, Jeannette Diulus, Bob Erickson, Norma Gessel, Betty Harpster, Pam Harris, Linda Isola, Greg Kelly, Vincent Lazo, Jean Leahy, Bette Leeling, Jan Macdougall, Pamela McArthur, Erlene Roberts, Beverly Samuel, Shelley Shuster, Sue Smith, Mary Upchurch, Elizabeth White.

WALNUT CREEK UNIFIED SCHOOL DISTRICT

Dolores Shumaker, Jean Simmons, Dink Terry, Jolley Thomas, Barbara West.

EMERITUS FACULTY

ERNST, KARL D. (1959)	Professor of Music
B.M., 1932, M.M., 1936, University of Washington; Ed.D., 1955, University of Oregon. Emeritus, 1974	
GEISER, PETER (1963)	Professor of Sociology
A.B., 1934, University of Pittsburgh; M.S.W., 1948, Ph.D., 1960, University of Southern California. Emeritus, 1974	
JOYAL, ARNOLD E. (1964)	Professor of Educational Administration
A.B., 1925, M.A., 1926, Ph.D., 1931, University of California, Berkeley; L.H.D., 1959, California College of Medicine. Emeritus, 1972	
OLSEN, EDWARD G. (1966)	Professor of Education
A.B., 1930, Pacific University; M.A., 1932, Columbia University; B.D., 1933, Union Theological Seminary; Ed.D., 1937, Teachers' College, Columbia University. Emeritus, 1973	

FACULTY

MCCUNE, ELLIS E. (1967)	President
B.A., 1948, Ph.D., 1957, University of California at Los Angeles	
ACORD, THOMAS W. (1972)	Assistant Professor of Music
B.M., 1967, Texas Technical University; M.M., 1969, University of Texas	
AGIN, RHODA L. (1973)	Assistant Professor of Speech and Drama
B.A., 1968, Brooklyn College; M.A., 1971, University of Illinois	
AITCH, WANDA L. (1972)	Assistant Professor of Kinesiology and Physical Education
B.S., 1967, Lincoln University	
ALLEN, DORIS L. (1966)	Librarian
B.A., 1957, San Francisco State College; M.L.S., 1963, University of California, Berkeley	
ALLISON, HARRY E. (1964)	Chairman, Department of Marketing
B.S., 1949, M.S., 1950, Pennsylvania State University; Ph.D., 1955, Harvard University	Professor of Business and Economics
ALMQUIST, ALAN J. (1971)	Assistant Professor of Anthropology
B.A., 1967, M.A., 1969, Ph.D., 1972, University of California, Berkeley	
ALPER, THEODORE G. (1970)	Assistant Professor of Educational Psychology
B.A., 1964, Michigan State University; M.S., 1966, California State College, Los Angeles; Ph.D., 1969, University of Oregon	
AMEMIYA, FRANCES CAMPBELL (1964)	Professor of Mathematics
A.B., 1935, A.M., 1936, University of California at Los Angeles; Ph.D., 1945, University of Michigan	
AMES, RICHARD G. (1969)	Associate Professor of Sociology
B.A., 1958, George Washington University; M.A., 1962, American University; Ph.D., 1970, University of North Carolina	
ANDERSON, BARBARA GALLATIN (1964)	Professor of Anthropology
B.A., 1942, San Francisco College for Women; Ph.D., 1959, University of Paris (Sorbonne)	
ANDERSON, THOMAS G. (1972)	Assistant Professor of Educational Psychology
B.S., 1962, M.Ed., 1963, Pennsylvania State University; Ph.D., 1971, University of Pittsburgh	
ANDREWS, MALACHI (1968)	Associate Professor of Health and Physical Education
B.A., 1956, M.A., 1962, University of Arizona	
ASHLEY, JOHN W. (1965)	Professor of Economics
B.A., 1943, M.B.A., 1947, Stanford University; Ph.D., 1958, University of California at Los Angeles	
BAALMAN, ROBERT J. (1965)	Associate Professor of Biological Science
B.S., 1960, M.S., 1961, Fort Hays Kansas State College; Ph.D., 1965, University of Oklahoma	
BABLADELIS, GEORGIA (1966)	Professor of Psychology
B.A., 1953, University of Michigan; M.A., 1957, University of California, Berkeley; Ph.D., 1960, University of Colorado	
BAILEY, CLAYTON G. (1968)	Assistant Professor of Art
B.S., 1960, M.S., 1961, University of Wisconsin	
BAIRD, CHARLES W. (1972)	Associate Professor of Economics
B.S., 1964, Clark University; Ph.D., 1968, University of California, Berkeley	
BAIRD, JOHN E. (1967)	Associate Professor of Speech and Drama
B.A., 1947, M.A., 1948, College of the Pacific; Ph.D., 1959, Columbia University	

BARLOW, EDWIN L. (1973) Assistant Professor of Music
 A.B., 1968, Pfeiffer College; M.M., 1969, University of Southern California

BARRETT, G. HAROLD (1963) Professor of Speech and Drama
 A.B., 1949, M.A., 1952, University of the Pacific; Ph.D., 1962, University of Oregon

BARRY, JEAN C. (1965) Associate Professor of Mathematics
 B.S., 1953, University of Illinois; M.S., 1959, University of Pittsburgh

BARTELT, CLAUDIA A. (1970) Associate Professor of Counseling
 B.A., 1958, Hofstra University; M.A., 1963, University of Oregon; Ph.D., 1969, University of California, Berkeley

BARTLEY, WILLIAM W. (1970) Professor of Philosophy
 A.B., 1956, A.M., 1958, Harvard University; Ph.D., 1962, London School of Economics

BARULICH, RICHARD (1970) Instructor of Speech and Drama
 B.A., 1969, M.A., 1970, San Francisco State College

BASART, ROBERT D. (1968) Associate Professor of Music
 B.A., 1948, Stanford University; B.M., 1953, St. Louis Institute of Music; M.A., 1957, Ph.D., 1971, University of California, Berkeley

BASSEN, PAUL C. (1968) Assistant Professor of Philosophy
 B.A., 1958, Cornell University; Ph.D., 1971, University of California, Berkeley

BASU, ASOKE K. (1968) Director, Asian-American Studies; Associate Professor of Sociology
 B.A., 1961, West Virginia University; M.A., 1963, Ph.D., 1966, Oklahoma University

BATES, ROBERT E. (1963) Professor, Director of Institutional Studies
 A.B., A.M., 1932, Indiana University; Ph.D., 1939, Columbia University

BEAN, LOWELL J. (1966) Associate Professor of Anthropology
 Chairman, Department of Anthropology
 B.A., M.A., 1961, Ph.D., 1970, University of California at Los Angeles

BECKER, CAROL S. (1973) Assistant Professor of Child Development
 B.A., 1964, Mercy College; M.A., 1968, Ph.D., 1973, Duquesne University

BELGUM, EVELYN H. (1965) Professor of Education
 A.B., 1948, University of California, Berkeley; M.A., 1959, San Francisco State College; Ed.D., 1967, University of California, Berkeley

BELTON, JOHN C. (1966) Associate Professor of Biological Science
 B.S., 1957, Lewis and Clark College; M.S., 1962, Ph.D., 1966, Oregon State University

BENSELER, ROLF W. (1968) Associate Professor of Biological Science
 B.S., 1957, University of California, Berkeley; M.F., 1958, Yale University; Ph.D., 1968, University of California, Berkeley

BERGET, ELLSWORTH A. (1973) Assistant Professor of Education
 B.A., 1964, Brigham Young University; M.Ed., 1971, University of Illinois; Ph.D., 1973, Syracuse University

BIRGE, ANN C. (1965) Associate Professor of Physics
 A.B., 1946, Vassar College; A.M., 1947, Ph.D., 1951, Radcliffe College, Harvard

BLACK, JAMES M. (1962) Professor of Art
 B.S., 1951, M.S., 1952, University of Wisconsin; M.F.A., 1953, Cranbrook Academy of Fine Arts

BLACKMON, DORA M. (1970) Director of Nursing; Professor of Nursing
 B.S., 1950, University of Miami; A.M., 1953, Columbia University; Ph.D., 1964, University of Washington

BLAWIE, MARILYN-JUNE (Mrs.) (1959) Professor of Political Science
 B.A., 1952, University of Connecticut; J.D., 1955, University of Chicago Law School

BONNIN, ROBERT M. (1968) Associate Professor of Education
 A.B., 1952, San Diego State College; Ed.D., 1970, University of California, Berkeley

BOSWELL, ERNEST L. (1970) Assistant Professor of Counseling
 B.A., 1960, Omaha University; M.S., 1970, California State College, Hayward

BOWLUS, REGINA G. (1973) Instructor of Nursing
 B.S.N., 1969, Georgetown University; M.S., 1972, University of California, San Francisco

BOYD, ZELDA ARBER (1970) Assistant Professor of English
 B.A., 1953, Cornell University; M.A., 1956, Columbia University; Ph.D., 1971, University of Michigan

BOZAK, RICHARD E. (1964) Professor of Chemistry
 B.S., 1956, University of Washington; Ph.D., 1959, University of California, Berkeley

BROCK, PHYLLIS J. (1963) Associate Professor of Physical Education
 A.B., 1951, Chico State College; A.B., 1956, San Jose State College; M.A., 1963, Ed.D., 1968, University of California, Berkeley

BROKAW, ROBERTA (1970) Assistant Professor of Music
 B.M., 1960, M.M., 1965, University of Indiana

BROOKS, ELWOOD R. (1964) Associate Professor of Earth Sciences
 B.S., 1956, Michigan College of Mining and Technology; M.S., 1958, University of California; Ph.D., 1965, University of Wisconsin

BROOKS, WENDELL H. (1971) Lecturer in Black Studies
 B.A., 1962, Whittier College; M.S., 1970, Uppsala University, Sweden

BROWN, DONALD J. (1963) Professor of Educational Psychology
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BROWN, GERALD W. (1965) Professor of Education
 B.S., 1939, University of Nebraska; M.A., 1951, University of California, Berkeley; Ed.D., 1954, Stanford University

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BUDA, MICHELLE K. (1968) Librarian
 B.A., 1966, M.A.L.S., 1968, University of Michigan

BUDER, NORMAN (1970) Assistant Professor of Philosophy
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BULLOUGH, WILLIAM A. (1970) Assistant Professor of History
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BURNETT, LEWIE W. (1962) Dean, School of Education; Professor of Education
 B.S., 1937, Central Washington State College; Ed.D., 1948, Stanford University

CADOGAN, KEVIN D. (1969) Associate Professor of Chemistry
 B.S., 1960, Manhattan College; Ph.D., 1966, Cornell University

CAMBUS, JOHN (1963) Associate Chairman, Department of Speech and Drama;
 Professor of Speech and Drama
 B.A., 1952, M.A., 1953, Ph.D., 1959, Wayne State University

CAPLAN, CALVIN S. (1968) Associate Professor of Health and Physical Education
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CARMICHAEL, BENJAMIN G. (1969) Associate Professor of Sociology
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CARR, JANE ANN (1972) Assistant Professor of Kinesiology and Physical Education
 B.S., 1959, South West Missouri State College; M.A., 1962, University of Florida; Ph.D., 1972, University of Southern California

CARSON, LEWIS S. (1965) Assistant Professor of Art
 B.A., 1960, Alfred University; M.A., 1963, University of California, Berkeley

CARTER, HARRY H. (1967) Chairman, Department of Music; Associate Professor of Music
 B.M., 1955, University of Kentucky; M.M., 1956, University of Southern California; D.M.A., 1971, University of Illinois

CASSUTO, ALEXANDER E. (1971) Assistant Professor of Economics
 B.A., 1965, M.A., 1967, Queens College, New York; Ph.D., 1973, University of California, Los Angeles

CASTAGNOZZI, CAROL A. (1968) Librarian
 B.A., 1966, Syracuse University; M.L.S., 1968, Rutgers University

CHAN, DAVID B. (1963) Professor of History
 B.A., 1947, University of California, Berkeley; M.A., 1948, Columbia University; Ph.D., 1957, University of California, Berkeley

CHAPLIN, LEONARD I. (1971) Assistant Professor of Health and Physical Education
 B.B.A., 1962, University of Miami; B.S., 1968, Pennsylvania State University; M.A., 1969, University of California, Berkeley

CHARNOW, ALLEN K. (1967) Professor of Mathematics
 A.B., 1956, M.A., 1958, Ph.D., 1965, University of California, Berkeley

CHATFIELD, MICHAEL (1973) Associate Professor of Accounting
 B.A., 1957, M.B.A., 1962, University of Washington; D.B.A., 1966, University of Oregon

CHAUFFE, LEROY (1968) Associate Professor of Chemistry
 B.S., 1959, Xavier University; M.S., 1961, Howard University; Ph.D., 1966, University of California at Davis

CHAVERS, PASQUAL D. (1972) Assistant Professor of Native American Studies
 B.A., 1970, University of California, Berkeley

CHEENEY, GAY E. (1964) Associate Professor of Physical Education and Drama
 B.S., 1955, Bouve School of Tufts University; M.S., 1964, University of Wisconsin; Ph.D., 1970, University of Southern California

CHOI, SOON-YOUNG (Mrs.) (1965) Librarian
 B.A., 1960, M.A., Ewha Women's University, Korea; M.L.S., 1965, University of California, Berkeley

CHU, DONALD A. (1968) Assistant Professor of Health and Physical Education
 B.S., 1967, California State College, Hayward

CLARK, EUGENE W. (1964) Director of Placement Services
 Professor of Biology
 B.A., 1949, Macalester College; M.S., 1951, University of Illinois; Ph.D., 1963, University of Denver

CLARK, STANLEY J. (1972) Assistant Professor of Kinesiology and Physical Education
 B.S., 1968, California State College, Hayward

CLAUS, PETER J. (1970) Assistant Professor of Anthropology
 B.A., 1964, M.A., 1966, University of Wisconsin; Ph.D., 1970, Duke University

CLAY, EDWARD M. (1965) Associate Professor of English
 B.A., 1954, M.A., 1958, University of Minnesota; Ph.D., 1965, University of Missouri

COGSWELL, HOWARD L. (1964) Professor of Biological Science
 B.A., 1948, Whittier College; M.A., 1951, Ph.D., 1962, University of California, Berkeley

COHEN, ELEANOR D. (1968) Assistant Professor of Music
 B.S., 1948, New York University

COHEN, VICKIE R. (1971) Assistant Professor of Psychology
 B.A., 1967, Oxford University; M.A., 1969; Ph.D., 1971, University of Michigan

COLLINS, PAUL V. (1973) Lecturer in Teacher Education
 A.B., 1941, Livingstone College; M.S., 1960, Tennessee State University

CONNER, JACK E. (1962) Professor of English
 B.A., 1939, B.S., 1942, Texas College of Arts and Industries; Ph.D., 1952, Stanford University

COOPER, RICHARD K. (1965) Professor of Physics
 B.S., 1958, M.S., 1959, California Institute of Technology; M.S., 1962, Ph.D., 1964, University of Arizona

CORREA-ZOLI, YOLE (1971) Assistant Professor of Foreign Languages
 A.B., 1965, San Francisco State College; Ph.D., 1970, Stanford University

CORY, NORMAN R. (1963) Professor of Music
 B.S., 1938, B.M., 1939, Miami University; M.F.A., 1941, University of Oregon

COSTY, JAMES O. (1964) Drama Coordinator; Associate Professor of Speech and Drama
 B.A., 1945, Santa Barbara College; M.A., 1946, University of Washington; Ph.D., 1954, University of Denver

CRAPO, STEVEN E. (1969) Associate Professor of Educational Psychology
 A.B., 1961, M.A., 1966, San Francisco State College; Ph.D., 1969, Arizona State University

CROWELL, JACKSON H. (1963) Associate Dean, School of Arts, Letters, and Social Sciences;
 Professor of Political Science
 A.B., 1947, Bowdoin; M.A., 1949, Ph.D., 1959, Fletcher School of Law and Diplomacy

CUMMINGS, JON C. (1964) Chairman, Department Earth Sciences;
 Professor of Earth Sciences
 B.S., 1952, M.S., 1956, Ph.D., 1960, Stanford University

CUMMINS, LEJEUNE (1963) Chairman, Department of History; Professor of History
 A.B., 1950, M.A., 1951, Ph.D., 1964, University of California, Berkeley

CUSTRED, H. GLYNN (1971) Assistant Professor of Anthropology
 B.A., 1962, M.A., 1965, Ph.D., 1973, Indiana University

DANCE, MAURICE E. (1969) Vice President, Academic Affairs, Professor of Economics
 B.A., 1947, University of Washington; M.A., 1949, Ph.D., 1953, University of Wisconsin

DAVIES, CORDON F. (1960) Coordinator of Field Experience—Elementary;
 Professor of Education
 B.Ed., 1948, University of Alberta; M.Ed., 1949, University of Oregon; Ed.D., 1960, Stanford University

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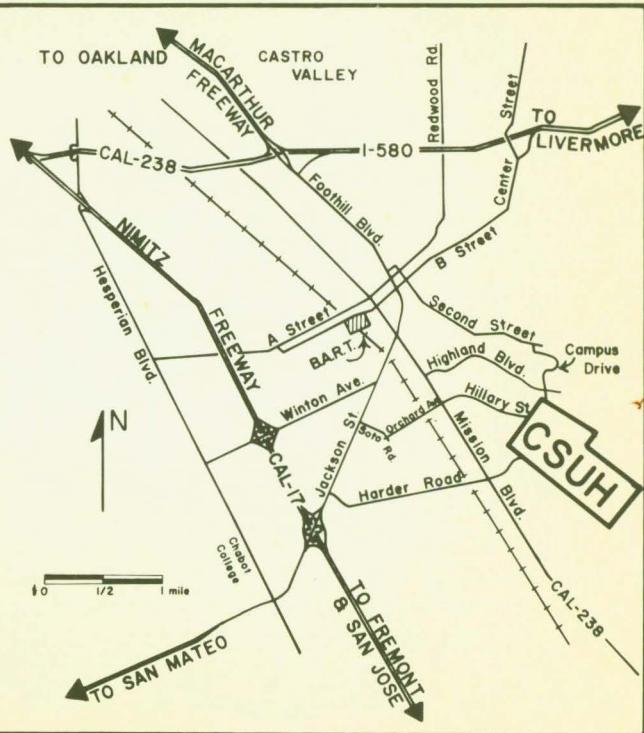
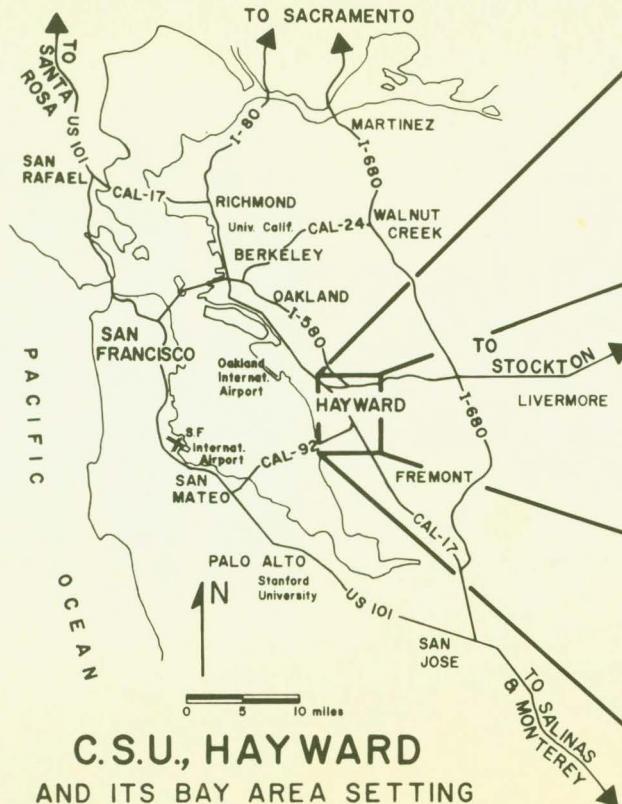
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